United States Court of Appeals
for the
District of Columbia Circuit

TRANSCRIPT OF RECORD

APPENDIX FOR APPELLANT

IN THE

United States Court of Appeals

FOR THE DISTRICT OF COLUMBIA

COURT OF APPEALS
DISTRICT OF COL
FILED OCT 28 194
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No. 7962

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BENJAMIN F. MIESSNER AND MIESSNER
INVENTIONS, INC., *Appellant,*

v.

WILHELMINA HOSCHKE, ET AL.

**Appeal from the District Court of the United States
for the District of Columbia**

CLIFTON V. EDWARDS,
63 Wall St., New York City,
Attorney for Appellant.
SPENCER B. MICHAEL,
Woodward Bldg.,
Washington, D. C.
Solicitor for Appellant.

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FOR THE DISTRICT OF COLUMBIA

No. 7962.

BENJAMIN F. MIESSNER AND MIESSNER
INVENTIONS, INC., *Appellant,*
v.
WILHELMINA HOSCHKE, ET AL.

**Appeal from the District Court of the United States
for the District of Columbia**

APPENDIX TO BRIEF FOR APPELLANT.

I.

PLEADINGS, DOCKET ENTRIES AND OTHER PAPERS DESIGNATED BY APPELLANT.

Complaint.

1 To the Honorable Judges of the District Court of the United States for the District of Columbia:

Jurisdiction

1. This action arises under U. S. Code Title 35, § 63 (R. S. 4915) as hereinafter more fully appears.

Parties

2. Plaintiff, Benjamin F. Miessner, is the inventor named in his patent application entitled "Methods and Apparatus

for the Production of Music", filed in the United States Patent Office on October 15, 1935 as a renewal of his application Serial No. 758,155 filed in the Patent Office on December 19, 1934, and is the true and first inventor of the invention disclosed and claimed therein.

3. Plaintiff, Miessner Inventions, Inc., a corporation incorporated under the laws of the State of New Jersey, is the owner of said Miessner application by assignment from said Benjamin F. Miessner, profert of which is hereby made.

4. Defendant, Wilhelmina Hoschke, is a resident of South Haven, Michigan, and is the owner of the title to 2 United States Letters Patent 2,015,014, issued on September 17, 1935 to Frederick A. Hoschke, now deceased, the title to said patent having passed to Wilhelmina Hoschke as executrix of the estate of Frederick A. Hoschke, and then from Wilhelmina Hoschke, executrix, to Wilhelmina Hoschke as an individual.

5. Defendant, Everett Piano Company, is a corporation incorporated under the laws of the State of Illinois which owns a license under said Hoschke patent 2,015,014, the full scope of which at present is unknown to plaintiffs, but which plaintiffs expect to ascertain from answers to the attached interrogatories.

6. Defendant, Victor I. Zuck, is a resident of South Haven, Michigan, and owns the right to receive royalties, and perhaps additional interest, in Hoschke patent 2,015,014, the full extent of which interest is at present unknown to plaintiffs, but which plaintiffs expect to ascertain from answers to the attached interrogatories.

7. No other persons or organizations owning an interest in said Hoschke patent 2,015,014 are at present known to plaintiffs, but if such persons or organizations exist they are invited to appear and answer in this suit, and plaintiffs expect to ascertain whether such other persons or organizations exist from answers to the attached interrogatories.

8. On November 21, 1935, the Commissioner of Patents adjudged that the invention described and claimed in said Miessner renewal application Serial No. 758,155 in part interfered with said Hoschke patent 2,015,014. Priority of invention of the subject matter of the interference
3 was litigated in the Patent Office on the following
counts:—

1. In a musical instrument, a microphone circuit having a condenser, said condenser consisting of a reed secured at one end, the remaining portion of the reed being free for unrestricted vibration, said reed forming one plate of the condenser and a second plate in inductive relation with respect to the reed.

2. In a musical instrument, a microphone circuit having a condenser, said condenser consisting of a reed secured at one end, the remaining portion of the reed being free for unrestricted vibration, said reed forming one plate of the condenser, and a second plate adjustable with respect to the reed for varying the capacitance of the condenser.

Plaintiffs presented to the Commissioner of Patents proof establishing that plaintiff, Benjamin F. Miessner, is the true, original, and first inventor of the subject of said interference, as defined in the above counts, and after due proceedings had, the Examiner of Interferences in the Patent Office on January 21, 1938 awarded priority of invention of Count 1 to Benjamin F. Miessner and of Count 2 to Frederick A. Hoschke. Upon cross-appeals taken from the decision of the Examiner of Interferences, the Board of Appeals awarded priority of invention of both counts to Frederick A. Hoschke on May 8, 1939. On June 16, 1939 the Board of Appeals denied a petition by Benjamin F. Miessner for rehearing of the appeals; and the Commissioner of Patents has refused a patent to the plaintiffs for the subject of said interference.

No appeal has been taken to the United States Court of Customs and Patent Appeals from the said decision of the Board of Appeals.

Wherefore, plaintiffs pray this Honorable Court:

(1) To decree Benjamin F. Miessner to be the true, original, and first inventor of the subject-matter of the said interference.

(2) To authorize the Commissioner of Patents to issue to plaintiff, Miessner Inventions, Inc., as assignee of Benjamin F. Miessner, a patent including the subject of said interference.

(3) For costs and such further relief as equity may require.

BENJAMIN F. MIESSNER,
Miessner Inventions, Inc.
By THEO. McC. MARSH,
Secretary

CLIFTON V. EDWARDS
Attorney for Plaintiffs
Address: 63 Wall Street, New York
SPENCER B. MICHAEL
Address: 920 - Woodward Bldg.
Washington, D. C.

Order Amending Complaint.

5 Endorsed: Filed Dec 22 1939 Charles E. Stewart, Clerk.

Civil Action File No. 4353

United States District Court for the District of Columbia

BENJAMIN F. MIESSNER and MIESSNER INVENTIONS, INC.,
Plaintiffs
-vs-
WILHELMINA HOSCHKE, EVERETT PIANO COMPANY and
VICTOR I. ZUCK, *Defendants*

Upon the annexed consent of the solicitors for the parties hereto,

It Is Ordered:

That the complaint be and hereby is amended by substituting for Paragraph 5 thereof the following paragraph:

"5. Defendant, Everett Piano Company, is a corporation incorporated under the laws of the State of Illinois which owns an exclusive license under said Hoschke Patent 2,015,014, and is an adverse party within the meaning of U. S. Code Title 35, Sec. 72a."

It Is Further Ordered:

That the defendants shall answer to the amended complaint within seven days from the entry of this order. 12/22/39.

O. R. LUHRING
United States District Judge

Entry of the foregoing
order is consented to without
further notice

SPENCER B MICHAEL
Solicitor for Plaintiffs

HARRY E. SEIDEL
Solicitor for Defendants

Stipulation.

6 Endorsed: Filed Dec 28 1939 Charles E. Stewart, Clerk.

Civil Action File No. 4353

United States District Court for the District of Columbia

BENJAMIN F. MIESSNER and MIESSNER INVENTIONS, INC.,
Plaintiffs

-vs-

WILHELMINA HOSCHKE, EVERETT PIANO COMPANY and
VICTOR I. ZUCK, *Defendants*

It is hereby stipulated by and between the solicitors for the parties hereto that the original answer filed on or about October 28, 1939 be withdrawn, and that the attached amended answer shall be filed herein as a substitute for said original answer.

SPENCER B MICHAEL
CLIFTON V. EDWARDS
Solicitor for Plaintiffs

December 21, 1939

HARRY E. SEIDEL
Solicitor for Defendants

December , 1939

It Is So Ordered.

....
United States District Judge

Amended Answer.

7 Endorsed: Filed Dec 28 1939 Charles E. Stewart, Clerk.

Civil Action File No. 4353

District Court of the United States for the District of Columbia

BENJAMIN F. MIESSNER and MIESSNER INVENTIONS, INC.,
Plaintiffs

-vs-

WILHELMINA HOSCHKE 78 Van Buren Street South Haven, Michigan

EVERETT PIANO COMPANY South Haven Michigan

VICTOR L. ZUCK 713 Michigan Avenue South Haven, Michigan *Defendants*

Now come the defendants and make answer to the Complaint herein as amended as follows:

1. Defendants admit the allegations of Paragraph 1 of the Complaint.

2. Defendants admit that Benjamin F. Miessner is the applicant in United States Patent Application Serial No. 758,155 filed in the Patent Office on December 19, 1934 and renewed on October 15, 1935 but deny the remaining allegations of Paragraph 2 of the Complaint.

3. Defendants are without knowledge as to the allegations of Paragraph 3 of the Complaint.

4. Defendants admit the allegations of Paragraph 4 of the Complaint.

5. Defendants admit the allegations of Paragraph 5 of the Complaint.

8 6. Defendants deny that Victor I. Zuck owns any interest in Hoschke Patent No. 2,015,014 or that he "owns the right to receive royalties". Defendants, Wilhelmina Hoschke and Victor I. Zuck, aver that Victor I. Zuck did enter into an agreement with Frederick A. Hoschke on October 24, 1934 under which Victor I. Zuck was to receive 30 percent of all royalties received from the Everett Piano Company.

7. Defendants deny that the plaintiff Benjamin F. Miessner was the true, original and first inventor of the subject matter of Interference No. 71,788 between Miessner Patent Application Serial No. 758,155 and Hoschke Patent No. 2,015,014 and deny further that plaintiffs presented to the Commissioner of Patents proof establishing that Benjamin F. Miessner was the true, original and first inventor of the aforesaid subject matter but admit the remaining allegations of Paragraph 8 of the Complaint.

8. Further answering the Complaint herein defendants allege that Frederick A. Hoschke, now deceased, was the first true and original inventor of the subject matter of the aforesaid Interference No. 71,788 between Miessner Application Serial No. 758,155 and Hoschke Patent No. 2,015,014 as set forth in the following counts:

> 1. In a musical instrument, a microphone circuit having a condenser, said condenser consisting of a reed secured at one end, the remaining portion of the reed

being free for unrestricted vibration, said reed forming one plate of the condenser and a second plate in inductive relation with respect to the reed.

2. In a musical instrument, a microphone circuit having a condenser, said condenser consisting of a reed secured at one end, the remaining portion of the reed being free for unrestricted vibration, said reed forming one plate of the condenser, and a second plate adjustable with respect to the reed for varying the capacitance of the condenser.

and defendant, Wilhelmina Hoschke, presented to the Commissioner of Patents proof establishing that Frederick A. Hoschke was the true, original and first inventor of the
subject matter of the Interference and the Commis-
9 sioner of Patents rightfully refused to grant a pat-
ent to the plaintiffs for the subject matter of the Interference.

Wherefore defendants pray that the Complaint be dismissed with costs to the defendants.

HARRY E. SEIDEL
Attorney for Defendants
Office and Post Office Address
1319 F Street N. W.
Washington, D. C.

MUNN, ANDERSON & LIDDY
ORSON D. MUNN
DANIEL H. KANE
Of Counsel for Defendants

Plaintiffs' attorney and solicitor hereby acknowledge receipt of a copy of the above amended answer and consent to the filing thereof.

CLIFTON V. EDWARDS
Attorney for Plaintiff
SPENCER B MICHAEL
Solicitor for Plaintiff

* * * * * * * * * *

II.

EXCERPTS FROM TESTIMONY AND PROCEEDINGS DESIGNATED BY APPELLANT.

36 **Charles T. Jacobs**

* * * * * * * * * *

37 Direct Examination

* * * * * * * * * *

38 Q. 8. Just what did you do there? A. I was assistant chief engineer in the Garod Corporation laboratory approximately a year, and I went to Splitdorf in an assistant engineering capacity and shortly thereafter was placed in charge of engineering for their radio sets. And then I went to the Thomas A. Edison Company, at Orange, and was there for a period of approximately or shortly over two years.

Q. 9. What was the business of the Garod Company? A. The business of the Garod Company was manufacturing radio sets.

Q. 10. Give the dates when you were with these corporations, as nearly as you can recall them. A. I was in the Garod laboratory from the middle of 1926 to the middle of 1927; with the Splitdorf Corporation from the fall of 1927 until the fall of 1928, when Edison took over the Splitdorf interests in the radio business and I continued with the Edison Company until the fall of 1930.

Q. 11. And then you went with Mr. Miessner? A. I went with Mr. Miessner, in his laboratory at Millburn.

Q. 12. Your duties there were what? A. My duties there were engineering and helping in the development of various instruments on which he was working and also the preparation and prosecution of patent applications on those. 39

Charles T. Jacobs.

Q. 14. How about your familiarity with music and musical instruments? A. That begins when I was six years old, when I started to study music, the piano, and studied it for a good many years; and about the time I was twenty I did quite a lot of piano playing in orchestras, at dances and so forth; and I have always kept up with music and play the piano and have been interested in all musical instruments.

Q. 15. And at the time of this test you were familiar with the piano and its operation? A. I was fully. I had, of course, helped in its construction.

* * * * * * * * * *

40 Q. 21. Had you seen a pitch pipe at Mr. Miessner's place before this test? A. I do not recall positively that I had seen one before this test.

* * * * * * * * * *

42 Q. 29. Now, as you saw that pipe at the time of the test, there was a screw projecting from it? A. There was.

Q. 30. Where was that located? Can you show how that was arranged? A. This screw was projecting from a hole—a similar hole to one of these four—one rather toward one end of the device; and of course the screw was surrounded by insulation, which was visible around the screw, which passed through the insulation.

Q. 31. Can you be sure that the identical pitch pipe which is present, now attached to the piano in the other room, is the same pitch pipe which you saw; and, if so, how? A. I feel sure from many small evidences. That pitch pipe which is in there is one which was put together with rivets instead of screws at the end; those rivets, one of them is still there; and I was present at the time of the removal of the other rivet, which was after this interference was declared. They are not a common device; we do not see them lying around everywhere; and I never saw more than one at Mr. Miessner's; and the condition of the pitch pipe in so far as all those things which were attached to it is concerned is precisely the same as I saw them at the time of the test; I mean they were still that way at the time the interference was declared; and I was personally present at the opening up of the exhibit.

Q. 32. Was it necessary to open up the riveted pitch
pipe in order to make the connections such as were
43 used in the test? A. It was not.

* * * * * * * * * *

Q. 37. It has been suggested that some other type of pick-up or device might have been used in that test, in order to attain the same tone that was attained at the time of the test. What have you to say about that?

* * * * * * * * * *

A. In my opinion, it is impossible that the device should have been anything other than an electrostatic pick-up constituted by that screw passing into close proximity to the reed.

Q. 38. Do you mean should have been or could have been? A. Could have been.

Q. 39. Why did you say it could not have been anything else? A. In the first place, the space between the plate on which the reeds are mounted and the inside of that cover is a shy eighth of an inch. Out of that space, some space has to be taken for the reed and its scope of vibration. In turn, there was visible, extending from the pitch pipe, this insulation, whose only means of support would be that it penetrated through the slight depth below the cover; and,
all told, there simply would not have been space in
45 there, in the vicinity of that reed, for anything beyond the extremity of the screw.

In the second place, the device which I saw was put together with eyelets, which clearly had not been tampered with. There were no eyeletting facilities available at Mr. Miessner's laboratory; and it was clear to me that the entire adaption or construction of that pitch pipe had been done without opening it up; and it was impossible to get anything larger than these small holes would admit into the inside of the device.

Charles T. Jacobs.

From still another point of view, I heard the test which Mr. Miessner made; and I heard a bad and loud clatter from the loud speaker when he adjusted the screw to certain position, which is a phenomenon that I had been familiar with for a number of years with the piano; when the electrode is brought so close to the device that it is contacted with the device, there is a terrible noise. I heard that noise at the time of these tests and I heard the noise eliminated when the screw was backed away and in my opinion that was a phenomenon which could not be explained by any other type of device.

* * * * * * * * * *

49 Cross Examination

By Mr. Kane:

XQ. 53. I refer you to the drawings of Miessner's patent application, found in Plaintiff's Exhibit 25, particularly to Fig. 6, and ask you to state briefly what that shows. A. Well, that shows a reed vibratable by a wind supply or suction, and in spaced relation to the reed there is an electromagnetic form of pick up, comprising a polarized core or pole and a coil surrounding it. May I correct that statement? The core would be unpolarized, because of the presence of the battery, which would serve to polarize it.

XQ. 54. Now would you kindly point out to the Court the electromagnetic pick up to which you referred? A. This electromagnetic pick up comprises this coil 16, through which is a core 16" that is polarized by this battery 17; and when the reed is vibrated electric oscillations will flow in this circuit which is completed by the resistance 12 (indicating on Fig. 5).

XQ. 55. That is not an electrostatic pick up? A. That is not.

XQ. 56. That is not a condenser microphone circuit shown there? A. That is not.

50 By the Court:

XQ. 57. Does that constitute a magnet? A. Yes; when it has current: and it may be that in the specification that is pointed out.

Charles T. Jacobs.

By Mr. Kane:

XQ. 58. Are there any other electromagnetic pick ups shown in that application? A. In Fig. 9 we have a picture of two of them, basically similar each to those we saw in Fig. 7. I do not see any others, no.

XQ. 59. I believe some reference was made to—

The Court (interposing) Pardon me just a minute.

By the Court:

XQ. 60. When you referred to polarized, did you mean because of its magnetic condition? A. Yes. The significance of that in this case being that if it were not polarized, it would pick up the vibrations weakly and of double frequency. It would not serve properly unless it were polarized.

XQ. 61. What confuses me is this: in my electric phonograph, if I plug in the connection at the wall and turn it one way, I get a loud hum in the motor; and if it is turned over when I plug in, I get no hum when it is not running and a loud hum when it is; and the mechanic said it was due to the way it was polarized. A. That is alternating current.

XQ. 62. Is that like the polarization of light? A. That
polarization, I suspect that you are speaking of an
51 alternating current supply. If there is a hum, that
polarization is merely a term used to indicate relative methods of connection. It does not involve the flow of a steady current.

XQ. 63. It is not polarized in the sense in which you are using it? A. No.

The Court: That is what I wanted to clear up in my mind.

By Mr. Kane:

XQ. 64. Mr. Jacobs, I refer you to Plaintiffs' Exhibit 30 and particularly to the portion to which I am pointing and which I will mark with the letter A, shown in blue, in section lines. What is that? A. It is a piece of insulation.

XQ. 65. Was it tape? A. No; it was a piece of black Bakelite tubing.

Charles T. Jacobs.

XQ. 66. And that extended completely around this screw? A. That is true.

XQ. 67. In this drawing it is shown in section? A. That is true.

XQ. 68. So that actually what you saw at the time of the demonstration of the pitch pipe was a screw, which was surrounded at the lower portion with Bakelite insulation? A. That is true.

XQ. 69. It was not broken away, in section? A. Oh, no.

Mr. Edwards: Speak up, Mr. Jacobs, so that we can hear you.

52 By Mr. Kane:

XQ. 70. And is the pitch pipe shown partially in section lines in Exhibit 30 also partially broken away? A. Yes. This being Exhibit 30?

XQ. 71. Yes.

Now, at the time that the demonstration was held, no portion of the pitch pipe was broken away in that fashion, was it? A. No.

XQ. 72. So that Exhibit 30 does not accurately represent the external appearance of what you saw at that time, bearing in mind that part of Exhibit 30 is shown in section lines? A. It, of course, does not represent exactly what I saw.

XQ. 73. For the purpose of the record, Mr. Jacobs, would you please explain what a condenser is? A. A condenser is a device constituted by two metallic or conductive elements which are insulated and which are not in electrical contact with each other, but between which there exists some dielectric medium, which may be air or oil or paper—any variety of things.

XQ. 74. What is "capacity", Mr. Jacobs, as used in connection with a condenser? What does the expression "capacity" mean? A. Capacity denotes the effective ability of that condenser to store a charge of electricity.

Charles T. Jacobs.

XQ. 75. And what is a condenser microphone? A. Condenser microphone is a term used to denote a microphone or a device which is, in its strict application, to pick 53 up sound, which comprises a condenser and one of the plates is readily vibratable and does vibrate when sound impinges upon it, thereby varying the capacity of the condenser.

XQ. 76. What is a condenser microphone circuit? A. A condenser microphone circuit would include a microphone and a source of voltage, which would serve to impress a potential difference between its electrodes—and I think there should be included in that a variable resistance; otherwise variations of the capacity would be of no effect in producing voltage that could be utilized.

XQ. 77. Do you know offhand when condenser microphones were first developed, approximately? A. I can only say that condenser microphones were well-known during the time that I was engaged in radio work, approximately 1928 and '29.

XQ. 78. They were well-known at that time? A. They were well known at that time.

XQ. 79. Was it common practice at that time to connect a condenser microphone circuit to an amplifier? A. It certainly was.

XQ. 80. Were amplifiers well-known at that time? A. They were.

Mr. Kane: No further questions, your Honor.

Redirect Examination

By Mr. Edwards:

RDQ. 81. You were asked about the inductive pick-up shown in Fig. 6 of the Miessner application. Could such a device have been present in the pick-up which you saw or in the apparatus which you saw at the time of the test 54 to which you have testified? A. In my opinion, there would not have space to put it in, under any

Benjamin F. Miessner.

circumstances. Furthermore, it could not have been present, in view of the fact that the device was riveted up. I mean it could not have been introduced without disturbing the rivets, which could not have been disturbed.

RDQ. 82. With the brass reeds that were in the pitch pipe, would it have worked? A. It would not. That is a further reason, which has developed upon an inspection of the pitch pipe, which had brass reeds, which would have been entirely without effect upon any electromagnetic form of pick-up.

Mr. Edwards: That is all.

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55 **Benjamin F. Miessner.**

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Direct Examination

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Q. 3. I have here two note books and I believe portions of these were put in evidence in the interference. Do you recognize these note books as yours? A. I do. They are numbers 15 and 18 of a series which is now up to 25.

Q. 4. Will you just stand up, so that you can show these to the Court and at the same time explain how they have been kept and what your practice was about these note books? A. For many years I have made a practice of keeping notes in regular note books of this type, all of which are numbered and the beginning date is always entered in the front of the book and the various entries are dated con-
secutively on the dates on which the entries are
56 made; and I have made a practice of keeping records
of tests, inventions, and all manner of records in
connection with my work in the laboratory.

Q. 5. Were these books kept consecutively? A. They were.

Q. 6. And the entries made at the time of the occurrences recited? A. Always, yes, sir.

Q. 7. Now, turn to page 22 of the book numbered 18, I believe it is, to the entry of October 23, 1933. Do you recognize that as an entry made by you? A. I do.

Q. 8. And made when? A. October 23, 1933.

Q. 9. And is that a record of occurrences on that date? A. That is.

Q. 10. Will you just let the Court see that and, without extended discussion, tell briefly what the sketch shows, what it represents, and what was done on that date? A. The sketch represents a pitch pipe which has hitherto been described; and attached to that pitch pipe, through one of the cover plates, is shown a Bakelite tubing, as an insulator, through which a machine screw has been inserted; and connections are indicated from that screw, and connections are also indicated from the frame of the pitch pipe. Attached also to the pitch pipe is a piece of rubber tubing, which has a hole on the side, adjacent one of the holes in the pitch pipe. One end of that rubber tubing is
57 blocked by means of a short piece of lead pencil, and the other is open, and through which air is drawn to operate one of the particular reeds in this pitch pipe and that one is the one which is opposite the screw extending through the Bakelite tube in the cover plate.

Q. 11. And where were the connections made? A. Connections were made to the screw, as indicated in the sketch, which says "to pick up bar", to make pick up connection on the piano.

Q. 12. Just a moment. What it actually says there is "to P U bar". A. "to P U bar." That is my abbreviation used for pick up. That is a very common expression in the laboratory.

Q. 13. Where is the other connection? A. The other connection is made through one of the eyelet holes and is indicated in this sketch as "to string for voltage." The rubber tube is marked "blowing tube."

Q. 14. And that was the tube to blow or suck in? A. That is the tube for this particular reed. You would draw air for operating that tube.

Benjamin F. Miessner.

There is another designation "hole in tube opposite blow hole of pipe", which means hole for the rubber tube; and the rubber tube is strapped on to the pitch pipe device by means of some white adhesive tape.

I might add that the description refers to the test and the results of the test.

Q. 15. And that was made when? A. October 23, 1933.

Mr. Edwards: Your Honor, these photostatic copies of the pages, including the one we have just referred 58 to, are already in evidence as Plaintiffs' Exhibits 11 and 12. I bring the books to show the character of the note books and to show that they were of a running nature.

Q. 16. Now, Mr. Miessner, what experience and knowledge had you had in connection with radio and also with musical instruments at the time of this test? A. Well, my whole career had been in radio. I had started out as an amateur radio operator and constructor of radio equipment, when I was a boy of 15 and, as far as experience is concerned, I was a radio operator in the United States Navy from 1908 to 1911 and thereafter for two years I was connected with John Hays Hammond, Jr., in radio control and torpedo development. Then I attended Purdue University in Indiana for two years.

Following that I was radio aide for the United States Navy, stationed at the Pensacola, Florida, Naval Air Station.

Following that I was engaged in radio research development and engineering work for a concern in New York, E. J. Simon, radio contractors.

And then I was in charge of the acoustical research laboratory for the Brunswick phonograph; that is the Brunswick-Balke-Collender Company of Chicago.

And then for the next about eight years I was chief engineer of several different radio companies.

In 1930 I formed my own company, Miessner Inventions, Inc., for the development of electronic musical instruments and for researches in that field.

Q. 17. Well, how about the musical line? A. Well,
59 I come from a musical family. My brother is a composer, musical conductor; and I studied music as a boy and played the trombone, the piano, and things of that sort.

I am, of course, familiar with the physics of sound and particularly with the physics of musical instruments.

Q. 18. Were you familiar with the principles of the mouth organ or harmonica or pitch pipe at that time? A. Yes, indeed.

Q. 19. What can you say as to whether the pitch pipe, Exhibit No. 3, which is now on the piano, is the identical pitch pipe which was used in the test referred to in this note book entry of October 23, 1933? A. It is the identical pitch pipe.

Q. 20. Why do you say that? A. It has been in my possession since that time. I made the changes in it and the attachments and the changes in it are the same today as they were at the time recorded in my note book, October 23, 1933.

Q. 21. You speak of changes. Just what changes did you make? A. I might explain that in the first test I made of this pitch pipe I selected at random one of the holes which was as nearly as possible opposite one of the reeds and I attached into that hole—I enlarged that hole with a drill, taking care not to push through so as to injure the reed underneath, and I pressed into that hole this Bakelite tube with the machine screw inserted and made the connections to the piano. Incidentally, the rubber tube was attached to the pitch pipe so that I would not have to
60 blow this pitch pipe directly with my lips, because through these connections there was about 600 volts connected to that, which I naturally did not want to get on my lips, so that the rubber tube was attached to insulate myself from that pitch pipe.

In this first tube I selected a reed of the blow type. There were two types, one for drawing and one of the blow variety. I selected a tube at random, which turned out to be the blow variety. I soon found that when I blew through this tube the breath vapors condensed inside the pitch pipe and around the insulating bushing surrounding the pitch pipe screw; and these began to cause a short circuit effect, which made noises and was not very satisfactory. Then I changed to one of the draw type of reeds, so that I could draw relatively moisture free air, atmosphere, through the reed, which would not condense in the pitch pipe and cause this short circuiting action. That is the reed which was still in use and which was used at the time of this second test.

Q. 22. Was it necessary to open up the pitch pipe in order to make these connections? A. No, absolutely not.

Q. 23. Was it riveted when you received it? A. It was riveted.

Q. 24. And always has been riveted, to the best of your knowledge, except for the removal of one rivet at the time the interference was started? A. Always.

Q. 25. It has been suggested that something else might have been inside the pipe, instead of the electrostatic pick-up between the reed and the screw. What can you
61 say as to that? A. Well, I am an inventor and I
cannot conceive of any other method of pick up with the reed, even at this late date.

Q. 26. Could it have been something like the inductive pick up referred to in one of the figures of your application? A. It could not possibly have been the magnetic pick up, because the reeds are brass and they could not affect the magnetic field and, therefore, would cause no pick up action.

* * * * * * * * * *

Opinion of District Court.

78 Endorsed: Filed Mar 31 1941 Charles E. Stewart, Clerk

Civil Action No. 4353

MIESSNER

vs.

HOSCHKE ET AL.

The decision of this case depends largely upon the evidence as to the construction and operation of Miessner's exhibit No. 3. He contends that at the end of the year 1933 he equipped this pitch pipe, (Exhibit No. 3) with an electrostatic pick up and connected it to an amplifier of an electric piano. He testified that the date of the operation was October, 1933, another witness, Jacobs, an attorney of Miessner, fixed the date as December, 1933, and a third witness as February 1934. The last witness did not understand the operation of the pitch pipe, and Jacobs did not examine the interior of the pitch pipe. The testimony offered by Miessner at the trial was substantially the same as that offered by him in the proceedings in the Patent Office.

I am not satisfied that this pitch pipe was constructed and operated at the time which Miessner contends.
79 Apart from the discrepancy of the testimony of the witnesses as to the time of its operation, the only evidence as to its real construction and the manner of its operation is that of Miessner himself.

In addition it may be added that from the testimony offered by the defendant, some of it being additional to that offered in the Patent Office, it appears that if Miessner had constructed this pitch pipe, as he claims, he abandoned that idea until the issuance of the Hoschke patent.

The complaint should be dismissed with costs.

BAILEY,
J.

* * * * * * * * * *

Findings of Fact.

80 The following Findings of Fact and Conclusions of Law are herewith made in this cause pursuant to Rule 52A of the Rules of Civil Procedure of the District Courts of the United States.

1. This is a suit under Section 4915 of the Revised Statutes (35 U. S. C. 63) arising out of Patent Office Interference No. 71,788, involving patent application Serial No. 758,155 of Benjamin F. Miessner, and patent No. 2,015,014, issued to Frederick A. Hoschke.

2. Plaintiff Benjamin F. Miessner is the applicant in patent application Serial No. 758,155 and plaintiff Miessner Inventions, Inc. is the assignee and present owner of the application.

3. Defendant, Wilhelmina Hoschke is the owner of patent No. 2,015,014, and defendant Everett Piano Company is the exclusive licensee under the patent, while defendant Victor I. Zuck was under contractual relationship with the late Frederick A. Hoschke.

4. The two counts involved in this interference are claims 1 and 3 of patent No. 2,015,014, and originated in that patent.

81 5. The counts involved in this interference relate to a musical instrument, specifically an electronic organ having a condenser microphone circuit in which one of the plates of the condenser is a vibrating reed.

6. The two counts differ from each other primarily in that count 2 specifies that the second, or relatively fixed plate of the condenser is adjustable with respect to the reed, while count 1 contains no such limitation.

7. The application for patent No. 2,015,014 was filed on April 6, 1934, and application, Serial No. 758,155 was filed on December 19, 1934.

8. The Board of Appeals of the United States Patent Office awarded priority of invention as to both counts to Hoschke.

9. The testimony offered by the plaintiffs at the trial of this case was substantially the same as that offered by them in the proceedings in the Patent Office.

10. Plaintiff failed to establish by a preponderance of the evidence that Benjamin F. Miessner equipped a pitch pipe (Plaintiffs' Exhibit 3) with an electrostatic pickup and connected it to an amplifier of an electric piano at the end of the year 1933.

82 11. The evidence establishes that Frederick A. Hoschke conceived the invention set forth in the two counts, at least as early as April 12, 1928.

12. The evidence establishes that Frederick A. Hoschke built, and successfully operated at least as early as December, 1928, a small, single reed model, (Defendants' Exhibit 4) embodying the invention of counts 1 and 2.

13. Frederick A. Hoschke built a full-size organ embodying the invention set forth in counts 1 and 2, and successfully tested the organ in December, 1933.

Conclusions of Law

1. The plaintiffs have failed to prove that the decision of the Board of Appeals of the United States Patent Office, in Interference No. 71,788, is erroneous.

2. The plaintiffs have failed to prove that Benjamin F. Miessner invented the subjected matter of counts 1 and 2, involved in this controversy, prior to the filing of the application for patent No. 2,015,014.

83 3. The plaintiffs failed to prove reduction to practice of the invention, of counts 1 and 2, prior to the filing of the application for patent No. 2,015,014.

4. The evidence establishes that Frederick A. Hoschke invented the subject matter of counts 1 and 2, involved in this controversy, prior to any date of invention proven by the plaintiffs.

5. The Bill of Complaint herein should be dismissed with costs to the defendants.

JENNINGS BAILEY
United States District Judge

Dated: May 1st, 1941.

Service accepted April 19, 1941.

SPENCER B. MICHAEL

84 **Final Judgment.**

This cause came on to be heard, and was argued by counsel and thereupon, upon consideration thereof, it is ORDERED, ADJUDGED and DECREED, on this the first day of May, 1941;

That the Complaint herein be, and the same hereby is, dismissed with costs in the sum of $34.80, as taxed, and that the defendants shall have execution for said costs.

By the Court

JENNINGS BAILEY
Justice

Judgment Rendered:
April , 1941.

....
Clerk.

Service accepted April 19, 1941.

SPENCER B. MICHAEL

85 **Notice of Appeal.**

To the Honorable Judges of the District Court of the United States for the District of Columbia:

Notice is hereby given that Benjamin F. Miessner and Miessner Inventions, Inc., plaintiffs above named, hereby appeal to the Court of Appeals of the District of Columbia from the final judgment dismissing plaintiffs' bill of complaint entered in this cause by the United States District Court for the District of Columbia on or about May 1, 1941.

May 21, 1941.

CLIFTON V. EDWARDS
Attorney for Plaintiffs
SPENCER B. MICHAEL
920 Woodward Bldg
15 & H St. N. W.

* * * * * * * * * *

87 **Assignment of Errors.**

Now come the plaintiffs in the above entitled cause and file the following assignment of errors upon which they will rely upon their prosecution of the appeal in the above entitled cause from the decree made by this honorable Court and entered on or about the first day of May, 1941:

1. In holding that the testimony on behalf of Miessner was substantially the same as that offered by him in the proceedings in the Patent Office.

2. In holding that Miessner failed to establish by a preponderance of evidence that he had constructed and operated his Exhibit 3 with an electrostatic pick-up and connected it to an amplifier of an electric piano prior to the end of 1933.

3. In holding that the only evidence of the real construction and operation of Exhibit 3 is that of Miessner himself.

88 4. In holding as a matter of law that Miessner's evidence and the corroboration thereof appearing in the record, was not sufficient to establish the construction and operation of Exhibit 3 at the time alleged by him and prior to Hoschke's filing date.

5. In not holding that as a matter of law that the testimony of Miessner was sufficiently corroborated to prove the construction and operation of Exhibit 3 at the time alleged by him and prior to Hoschke's filing date.

6. In holding that if Miessner had constructed Exhibit 3 as he contended he abandoned the idea until the issuance of the Hoschke patent.

7. In not holding that Miessner was the prior inventor of the subject matter of counts 1 and 2 of the interference and entitled to a patent thereon.

8. In dismissing plaintiffs' bill of complaint, and in not decreeing the relief therein prayed for.

CLIFTON V. EDWARDS
Attorney for Plaintiffs

May 21, 1941.

SPENCER B. MICHAEL
#920 Woodward Bldg.

718 (copy)

III.

OPINIONS OF PATENT OFFICE TRIBUNALS.

Opinion of Examiner of Interferences.

(Part of Plaintiffs' Exhibit 26)

Final Hearing
November 17, 1937.

BW/MAM

In the United States Patent Office

Patent Interference No. 71,788.

Miessner v. Hoschke

Musical Instrument.

Application of Benjamin F. Miessner filed October 15, 1935, No. 758,155, renewal of application filed December 19, 1934.

Patent granted Frederick A. Hoschke September 17, 1935, No. 2,015,014, on application filed April 6, 1934, No. 719,396.

Mr. Charles T. Jacobs and Messrs. Milans & Milans and Messrs. Edwards, Bower & Pool for Miessner.

Messrs. Munn, Anderson & Liddy for Hoschke.

This is an interference between an application of Benjamin F. Miessner filed December 19, 1934 and patent No.

2,015,014 granted to Frederick A. Hoschke September 17, 1935 on an application filed April 6, 1934. The subject matter relates to electrical musical instruments and is defined in the following two counts.

Count 1. In a musical instrument, a microphone circuit having a condenser, said condenser consisting of a reed secured at one end, the remaining portion of the reed being free for unrestricted vibration, said reed forming one plate of the condenser and a second plate in inductive relation with respect to the reed.

719 Count 2. In a musical instrument, a microphone circuit having a condenser, said condenser consisting of a reed secured at one end, the remaining portion of the reed being free for unrestricted vibration, said reed forming one plate of the condenser, and a second plate adjustable with respect to the reed for varying the capacitance of the condenser.

The junior party Miessner alleges conception in 1930 and reduction to practice in October 1933 and offers the testimony of himself and the witnesses Jacobs, La Rocca and Lewis to establish these dates.

Miessner offers in evidence as his exhibit 10 a certified copy of certain papers filed in the United States Patent Office on October 6, 1932 forming a part of paper No. 18 of the file of his application for patent which resulted in patent No. 1,929,027. At the bottom of page 3 of this exhibit is a sketch which is believed to be a complete disclosure of the subject matter of count 1 of this interference. No means is illustrated for vibrating the reed but it is obvious that some means is to be provided and such means is discussed in paragraph 2 of page 1 and paragraph 2 of page 2 of the exhibit.

Jacobs alleges that he saw exhibit 10 some time in October 1930 and that he fully understood the subject matter disclosed therein.

It is believed to be clearly established therefore that Miessner had a complete conception of the subject matter

of count 1 and made a disclosure of the same by October 31,
1930 and unquestionably by October 6, 1932 when
720 the original of exhibit 10 was filed in the United
States Patent Office.

In support of his contention that he conceived the subject matter of count 2 on October 7, 1930 Miessner offers in evidence as exhibit 11 certain pages of his notebook numbered 15. It is not believed that these pages contain any definite disclosure of the subject matter of count 2 but constitute rather a tabulation of principles or proposals which might be useful at some future time in arriving at a conception of means to perform the functions contemplated therein. The pages of exhibit 11 are not believed to contain any evidence that Miessner had at that time any definite or specefic concept of means to carry out his objectives. He was merely recording and tabulating his thoughts for future reference.

Miessner is not believed to have had a complete conception of count 2 requiring the second plate or pickup to be adjustable with respect to the reed until he made and operated the pitchpipe arrangement in evidence as his exhibit 3, and disclosed on page 22 of his notebook No. 18. Miessner alleges that exhibit 3 was made and operated by connecting it to a Baldwin piano which had been arranged for electrostatic pickup on October 23, 1933 and that the entry in the notebook was made the same day. The witness Jacobs states that he saw the entry shortly thereafter but
also testifies to witnessing the demonstration of the
721 pitch pipe on the piano but cannot fix this date any
earlier than sometime in the early part of December. Since he saw the notebook after the entry was made and the entry was made concurrently with the demonstration no date for conception of the subject matter of count 2 can be afforded Miessner prior to December 15, 1933, which date is also believed to be the date of reduction to practice for both counts 1 and 2.

The party Hoschke argues that Miessner is entitled to no date earlier than some time in February 1934 since the witness La Rocca fixes the date of the demonstration at about that time. While it is true the testimony of Jacobs and La Rocca is at variance it is believed quite probable that Miss La Rocca who was employed part time as a typist was mistaken and that the testimony of Jacobs is quite reasonable and likely to be correct. He fixes the date as prior to the shipping of the Baldwin piano which was in December of 1933. He also alleges that during his regular employment with Miessner the piano had not returned. These facts tend to substantiate his testimony as to the time of the pitch pipe demonstration.

The senior party Hoschke contends that the use of the pitch pipe was not a reduction to practice since it cannot be properly termed a musical instrument, being capable of producing but a single note. This position is not believed to be well taken for the counts in issue relate to an
722 element to be used in a musical instrument and not to the complete instrument itself. To constitute a reduction to practice it is only necessary therefore to demonstrate the operativeness and utility of the combination claimed. This it is believed Miessner has done. Furthermore the pitch pipe was used in a combination which actually was a musical instrument. The Hoschke patent also contains claims to a plurality of reeds constituting a musical instrument and it is therefore obvious that the issue counts were intended to be limited. Oldroyd v. Morgan 421 O. G. 858; 57 F. (2d) 358; 1932 C. D. 394.

Miessner had at the time of the pitch pipe demonstration completely remodeled a conventional piano and converted it into an electronic piano. A microphone circuit of the general character expressed in count 1 was used the only exception being that a piano string was employed instead of a vibrating reed. A suitable amplifier and loud speaker, that is one capable of amplifying audio frequencies of regular musical range, was employed and was successfully used to produce piano tones electrically. The pitch pipe, which comprises the condenser element referred to in the counts in issue, was inserted in the already established and proven microphone circuit and was sounded by blowing air over the reed. The sound produced was an organ tone and was entirely satisfactory and is believed to constitute a complete reduction to practice of the counts in issue.

Hoschke urges that there is no satisfactory corro-
723 boration of Miessner's testimony relating to this re-
duction to practice since Jacobs admits that he did not see the internal construction of the device. It is to be noted that the piano circuit employed an electrostatic pickup device namely the piano string and pickup bar for its operation. It is also testified that the pitch pipe was wired to the piano circuit and sounded. It must therefore be obvious that the pitch pipe structure constituted an electrostatic condenser since it is highly improbable that it would have operated otherwise. The wire to the frame of the pipe was visible as well as the screw insulated from the frame. The pipe was sounded by blowing which necessarily establishes that the reed was free for unrestricted vibration. Jacobs who is a highly skilled technician and the recipient of several patents in related subjects did not find it necessary to examine the pitch pipe in minute detail for its characteristics were at once apparent to him as they would be to any one familiar with the general subject matter involved. It is believed to be satisfactorily established therefore that Miessner had a successful reduction to practice at least by December 15, 1933.

The senior party Hoschke who died prior to the taking of testimony is believed to have established a complete conception of the subject matter of both the issue counts
by April 14, 1928, on which date the witness
724 Zuck received a letter from Hoschke fully disclosing
the invention (Hoschke exhibit 1). Some doubts have been raised as to the authenticity of the exhibit but there is no evidence which tends to disprove the testimony of the witness Zuck. The attack upon this exhibit does not extend beyond the raising of unconfirmed suspicions. Clearly then Hoschke conceived at least by April 14, 1928.

A single reed model (ex. 4) is in evidence and is alleged to have been operated with an amplifier in December 1928, and is urged as a reduction to practice. The testimony relating to this operation is very meager and Zuck gives no satisfactory account of the character of the amplifier used. Zuck apparently is not or at least was not at that time skilled in electronics. Assuming, however, that such a demonstration took place it is believed very likely that it was not satisfactory for Hoschke thought so little of it that he did not refer to it in his original preliminary statement and was in fact still looking for a suitable amplifier as late as December 1933 when he engaged Victor Mumma to assist him in constructing such an apparatus. Mrs. Hoschke testifies to the existence and operation of exhibit 4 in 1927 but she knows nothing of its construction or theory of operation and so her testimony cannot be given any great weight (XQ. 9, p. 97).

725 Zuck testifies that a complete organ was made and satisfactorily operated on January 7, 1934 though this is denied by Mumma. Hoschke however filed his application April 6, 1934 so that if he had no actual reduction January 7, 1934 he at least has a constructive reduction on his filing date. It matters little which date Hoschke is afforded since either date is later than the date established by Miessner for a reduction to practice and Hoschke cannot prevail unless he can establish that he was diligent in reducing to practice.

After the alleged reduction to practice involving Hoschke exhibit 4, there is little evidence of any reasonably continuous activity by Hoschke until the summer of 1933. The excuses given for this inactivity are Hoschke's financial difficulties and the enforced absences from home due to his business activities. With regard to the finances of Hoschke it is to be noted that he was receiving a substantial salary until sometime in 1931, which it is believed afforded him an excellent opportunity to reduce to practice during the early years following his conception. His later reverses cannot excuse his early delay. Miessner was already active by this time as to count 1.

The enforced absence of Hoschke from his home is also not believed to present any adequate excuse for delay in reducing to practice for Hoschke was receiving a substantial salary during the period from 1928 to 1931 and could have employed a competent assistant to carry 726 on his work. When activity was resumed Hoschke actually did resort to help by others although his financial condition apparently had not been materially bettered. He obtained Zuck's assistance because he was not thoroughly familiar with Reed Organ construction and found it necessary to employ an assistant (Zuck Q. 21 p. 12). Later he employed Victor Mumma to assist in the construction of an amplifier.

Definitely dated activity on the part of Hoschke appears to have been renewed no earlier than the summer of 1933. In August 1933 Zuck prepared a reed chest for the Hoschke organ and on August 19, 1933 delivered the same to Hoschke as is evidenced by the entries in his diary (ex. 5G). In October Hoschke had prepared a drawing exhibit 6 and Zuck testifies that he saw it on October 23, 1933, referring to his diary entry for that date to refresh his recollection. In November according to the testimony of Victor Mumma, a witness for Miessner, Hoschke was working on his invention for he bought supplies at that time. On November 4, 1933 Zuck's diary notes work on the Hoschke organ.

The testimony of Mumma on cross-examination in relation to Miessner exhibit 18 is of particular interest (XQ. 12 p. 140) and while Mumma's testimony as to acts of Hoschke not within his knowledge can be given no weight the fact that much work had been completed substantiates the testimony of Zuck as to Hoschke's diligence during the fall of 1933.

727 Mumma testifies to continued activity until sometime in the fall of 1934, and there is evidence that the matter was placed in the hands of attorneys for Hoschke sometime in January 1934. Hoschke's application was filed

April 6, 1934 which is but a short time after his first contact with his attorney and is not believed to constitute an unreasonable delay.

It would appear from the record therefore that as to count 1 Hoschke has established no diligence during a period from just prior to Miessner's entry into the field to his (Hoschke's) reduction to practice and this is true whether Miessner be accorded a date of October 31, 1930, or October 6, 1932 and award as to that count must be made in favor of Miessner. As to count 2 it is believed the evidence indicates substantially continued reasonable diligence from at least August 19, 1933 which date is prior to Miessner's proven date of conception and Hoschke must therefore prevail.

Priority of invention of the subject matter of count 1 is hereby awarded the junior party Benjamin F. Miessner.

Priority of invention of the subject matter of count 2 is awarded the senior party Frederick A. Hoschke.

Limit of appeal: February 10, 1938.

A. Y. CASANOVA, JR.,
Acting Examiner of Interferences,
Room 3098.

January 21, 1938.

Opinion of Board of Appeals.

(Part of Plaintiffs' Exhibit 26)

741 (copy)

U. S. Patent Office
Board of Appeals
May 8 1939
Mailed

Appeals Nos. RHJ
25,928—25,929

Hearing:
April 20, 1939

In the United States Patent Office

Before the Board of Appeals

Meissner v. Hoschke

Patent Interference No. 71,788 between the application of Benjamin F. Miessner filed October 15, 1935, Serial No. 758,155, a renewal of an application filed December 19, 1934; and Patent No. 2,015,014 granted to Frederick A. Hoschke on September 17, 1935, on an application filed April 6, 1934, Serial No. 719,396. Musical Instrument.

Mr. Charles T. Jacobs, Messrs. Milans & Milans & Messrs. Edwards, Bower & Pool for Miessner.
Messrs. Munn, Anderson & Liddy for Hoschke.

Appeals have been filed by both parties to this interference from the decision of the Examiner of Interferences awarding priority as to count 1 to the junior party, Benjamin F. Miessner, and as to count 2 to the senior party, Frederick A. Hoschke.

The counts read as follows:

1. In a musical instrument, a microphone circuit having a condenser, said condenser consisting of a reed secured at one end, the remaining portion of the reed being free for unrestricted vibration, said reed forming one plate

of the condenser and a second plate in inductive relation with respect to the reed.

742 2. In a musical instrument, a microphone circuit having a condenser, said condenser consisting of a reed secured at one end, the remaining portion of the reed being free for unrestricted vibration, said reed forming one plate of the condenser, and a second plate adjustable with respect to the reed for varying the capacitance of the condenser.

We shall assume that the decision of the Examiner of Interferences has been read. As to many aspects we consider that discussion by us is unnecessary, although we have given careful consideration to the arguments advanced by both parties with respect to the numerous features involved in the records.

We are fully convinced that Miessner, the junior party, has not established a right to an award of priorty as to count 2.

Taking up now the appeal of the party Hoschke as to count 1. The Examiner of Interferences has held that the party Miessner established conception at least by October 6, 1932, and that the party Hoschke established conception in April, 1928. Each party attacks the examiner's rulings as to his adversary's proof of conception with respect to these dates. After careful examination of the respective records, however, it is our opinion that the examiner's holdings as to conception are warranted.

The Examiner of Interferences has held that the party Miessner is entitled to a reduction to practice prior to the party Hoschke's filing date of April 6, 1934, by a test of the Miessner Exhibit 3. The party Hoschke attacks this holding under three headings.

743 He first discusses the uncertainty as to dates as testified to by the corroborating witnesses. We are convinced, however, that the evidence can be relied upon as establishing the test as prior to the Hoschke filing date of April 6, 1934. Secondly, he points out that the corroborating witness La Rocca did not understand the con-

struction of Exhibit 3 and that the witness Jacobs did not, at the time of the test, inspect the interior of the exhibit and therefore he did not know what the interior construction was. The device which the corroborating witnesses saw at the test undoubtedly appeared similar to Exhibit 3, but it appears that it is necessary to rely upon the testimony of the party Miessner to show that Exhibit 3 is the same device which was tested and upon which the examiner awarded a reduction to practice.

The Examiner of Interferences has stated:

"It must therefore be obvious that the pitch pipe structure constituted an electrostatic condenser since it is highly improbable that it would have operated otherwise."

We can see no reason why it necessarily follows that the device tested contained an electrostatic condenser as it may have been possible that some other electrical means could have been employed for the purpose. It is our opinion, therefore, that the evidence does not sufficiently prove that the device which was tested is the same as Exhibit 3 and therefore reduction to practice should not have been awarded on this test.

Thirdly, the party Hoschke contends that a test of a single pitch pipe is not a test of a musical instrument, or, if it is, that the Hoschke Exhibit 4 constituted a reduction to practice at an earlier date. There may be reasonable room for argument as to this point but we
744
believe, however, that any one skilled in this art, after testing the pitch pipe on the electrical piano in the manner disclosed by the record, would be fully convinced that a satisfactory test of one pitch pipe would prove that a complete assembly of similar elements would necessarily function properly. It is our opinion that, in this instance, the party Miessner established a reduction to practice in a musical instrument of the device which was employed during the test sometime between October, 1933, and April 6, 1934. It is not believed, however, that the evidence submitted by the party Hoschke sufficiently proved that his

test of his Exhibit 4 can be regarded as establishing that the test was satisfactory.

The decision of the Examiner of Interferences is affirmed as to count 2. His decision is reversed as to count 1 and priority of invention of the subject matter of both counts in issue is hereby awarded to the senior party, Frederick A. Hoschke.

BOARD OF APPEALS

EUGENE LANDERS
Examiner-in-Chief

W. L. THURBER
Examiner-in-Chief

C. H. SHAFFER
Examiner-in-Chief

MESSRS. EDWARDS, BOWER & POOL,
63 Wall Street,
New York, N. Y.

MESSRS MUNN, ANDERSON & LIDDY,
1319 F Street N. W.,
Washington, D. C.
May 8, 1939.

748 (copy)

Opinion of Board of Appeals on Rehearing.

(Part of Plaintiffs' Exhibit 26)

U. S. Patent Office Board of Appeals, June 16, 1939

Mailed RHJ

Appeals Nos. 25,928-25,929

In the United States Patent Office

Before the Board of Appeals

MIESSNER v. HOSCHKE

Patent Interference No. 71,788 between the application of Benjamin F. Miessner filed October 15, 1935, Serial No.

758,155, a renewal of an application filed December 19, 1934; and Patent No. 2,015,014 granted to Frederick A. Hoschke on September 17, 1935, on an application filed April 6, 1934, Serial No. 719,396. Musical Instrument.

Mr. Charles T. Jacobs, Messrs. Milans & Milans and Messrs. Edwards, Bower & Pool for Miessner.

Messrs. Munn, Anderson & Liddy for Hoschke.

On Petition for Rehearing

The party Miessner petitions for a rehearing in the appeal decided on May 8, 1939, in order that the Miessner Exhibit No. 3 may be opened for inspection.

We fail to see how such an inspection at this time would prove what was inside the exhibit when, according to the record, the test was made.

We also do not consider that the decisions referred to in the petition are controlling in this case.

The petition is denied.

BOARD OF APPEALS,

EUGENE LANDERS
Examiner-in-Chief

W. L. THURBER
Examiner-in-Chief

C. H. SHAFFER
Examiner-in-Chief

June 16, 1939.

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FILED 194

BRIEF FOR APPELLANTS

IN THE

United States Court of Appeals

FOR THE DISTRICT OF COLUMBIA

BENJAMIN F. MIESSNER and
MIESSNER INVENTIONS, Inc.,
Appellants.

v.

WILHELMINA HOSCHKE, ET AL.,
Appellees.

No. 7962.

Appeal from the District Court of the United States for the District of Columbia

CLIFTON V. EDWARDS,
63 Wall Street, New York City
Attorney for Appellants.

SPENCER B. MICHAEL,
Woodward Building,
Washington, D. C.
Solicitor for Appellants.

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IN THE

United States Court of Appeals

FOR THE DISTRICT OF COLUMBIA

BENJAMIN MIESSNER and MIESSNER INVENTIONS, INC. vs. WILHELMINA HOSCHKE, EVERETT PIANO COMPANY and VICTOR I. ZUCK	No. 7962

BRIEF FOR APPELLANTS.

Jurisdictional Statement.

This suit was brought under section 4915 Revised Statutes; Title 35, U. S. C. §63; Act of July 8, 1870, c.230, §9, 27 Stat. 436; March 2, 1927, c.273, §11, 44 Stat. 1336; March 2, 1929, c.488, §2(b), 45 Stat. 1476.

Plaintiff-appellant Miessner is a citizen of New Jersey and plaintiff-appellant Miessner Inventions, Inc. is a corporation of New Jersey.

Defendant-appellee Wilhelmina Hoschke and defendant-appellee Victor I. Zuck are residents of South Haven, Michigan and defendant-appellee Everett Piano Company is a corporation of Illinois.

The allegations of residence and jurisdiction are found in Appellants' App., paragraphs 1 to 7 inclusive of the complaint (Appellants' App. 1, 2), paragraph 5 of the complaint as amended (Appellants' App. p. 5) and in paragraphs 1 to 6 of the amended answer (Appellants' App. p. 7).

Statement of the Case.

An interference, No. 71,788 was declared by the Patent Office November 21, 1935 (Exhibit 26, Miessner printed record, p. 1) between Frederick A. Hoschke as applicant for patent 2,015,014 granted September 17, 1935 upon application filed April 6, 1934, and Benjamin F. Miessner as applicant whose application Serial Number 758,155 filed December 19, 1934 was copending with the Hoschke application.

The subject matter of said interference was as follows:

> *Count* 1. In a musical instrument, a microphone circuit having a condenser, said condenser consisting of a reed secured at one end, the remaining portion of the reed being free for unrestricted vibration, said reed forming one plate of the condenser and a second plate in inductive relation with respect to the reed.
>
> *Count* 2. In a musical instrument, a microphone circuit having a condenser, said condenser consisting of a reed secured at one end, the remaining portion of the reed being free for unrestricted vibration, said reed forming one plate of the condenser, and a second plate adjustable with respect to the reed for varying the capacitance of the condenser.

After hearing upon the proofs the Patent Office tribunals decided as follows:

The Examiner of Interferences awarded priority of invention of Count 1 to Miessner and Count 2 to Hoschke, holding as to Count 1 that Miessner had disclosed the invention at least as early as October 6, 1932, upon which date he had filed Miessner Exhibit 10 in the Patent Office, and had reduced it to practice prior to December 15, 1933, all of which was prior to Hoschke's filing date of April 6, 1934, or any date that could be accorded to Hoschke as a reduction to practice; and that though Hoschke had a disclosure of the invention as early as April 1928 he was not diligent in reducing to practice. (Appellants' App. 22.)

As to count 2 the Examiner of Interferences held that Miessner disclosed and reduced to practice as early as December 15, 1933. (Appellants' App. 29.)

The Board of Appeals reversed the Examiner of Interferences as to Count 1 and affirmed him as to Count 2, and therefore awarded priority of invention of both counts to Hoschke holding that the identity of Miessner's Exhibit 3 used in his reduction to practice, depended upon the testimony of Miessner alone. (Appellants' App. 30.)

The Board of Appeals further held that it could see no reason why it necessarily followed that the device tested contained an electrostatic condenser, as "it may have been possible" that some other electrical means could have been employed for that purpose. (Appellants' App. p. 32.)

The Board, however, accepted as proven

(a) that Miessner did make a test between October, 1933 and prior to Hoschke's filing date of April 6, 1934.

(b) that Miessner "established a reduction to practice in a musical instrument of the device which was employed during the test";

(c) that the device "undoubtedly appeared similar to Exhibit 3 * * *".

The Court below held that the testimony offered by Miessner at the trial was substantially the same as that offered by him in the proceedings in the Patent Office and that the Court was not satisfied that the pitch pipe was constructed and operated at the time for which Miessner contended (Appellants' App. 17). In the Court's

Finding of Fact 10 (Appellants' App. 19), the Court held that plaintiff failed to establish by a preponderance of the evidence that Miessner "equipped a pitch pipe (Plaintiffs' Exhibit 3) with an electrostatic pick-up and connected it to an amplifier of an electric piano at the end of the year 1933."

The Court below also found as a fact (Finding of Fact 12, Appellants' App. 19) that the evidence establishes that Hoschke successfully operated at least as early as December 1928, a small single reed model (Defendants' Exhibit 4) embodying the invention of Counts 1 and 2.

And also the Court below found (Finding of Fact 13, Appellants' App. 19) that Hoschke built a full-sized organ embodying the invention set forth in Counts 1 and 2 and successfully tested the organ in December 1933.

Neither one of the Patent Office tribunals found the facts stated in the above Findings of Fact 12 and 13 and as will be shown hereinafter they are not established in this record.

It is submitted that the determinative question here is whether Miessner did reduce the invention to practice in the test which the Board conceded was made and that that issue is further narrowed down to the question whether the device tested by Miessner was equipped with an electrostatic pick up; and further that the determination of the ultimate of fact of reduction to practice depends upon the legal sufficiency and effect of the unchallenged facts.

If, as we contend, Miessner did employ the electrostatic pick-up in his test, and such test was prior to the end of 1933, then Miessner was the first to reduce to practice and is the inventor of Count 1 because Hoschke, although having conceived in 1928, was not diligent between that date and the filing of his application for patent.

Statutes Involved.

Section 4915, R.S. (See Appendix hereto, page 28.)

Statement of Points.

1. Miessner conceived of the invention of Count 1 as early as October 6, 1932.

2. Miessner made a reduction to practice of said Count 1 at least as early as December 15, 1933.

3. Hoschke (conceding conception and disclosure as early as April 14, 1928) was not diligent between that time and his reduction to practice which was later than Miessner's reduction to practice.

4. Miessner was the first to reduce to practice and Hoschke, even conceding conception in 1928, was not diligent in reducing to practice; hence Miessner was the first inventor of the subject matter of Count 1.

5. The Court below erred in holding that plaintiff failed to establish by a preponderance of the evidence that Benjamin F. Miessner equipped a pitch pipe (Plaintiffs' Exhibit 3) *with an electrostatic pick-up* and connected it to an amplifier of an electric piano at the end of the year 1933.

6. The Court below erred in holding that the evidence established that Frederick A. Hoschke built and successfully operated at least as early as December, 1928, a small single reed model (Defendants' Exhibit 4) embodying the invention of Counts 1 and 2.

7. The Court below erred in holding that Frederick A. Hoschke built a full-sized organ embodying the invention set forth in Counts 1 and 2 and successfully tested the organ in December, 1933.

ARGUMENT.

The Nature of the Invention.

The invention in controversy has to do with electronic musical instruments, especially electronic reed instruments, such as organs, mouth organs and the like.

It may be described by reference to Fig. 8 of the Miessner application and Fig. 2 of the Hoschke patent, copies of which are here introduced.

MIESSNER

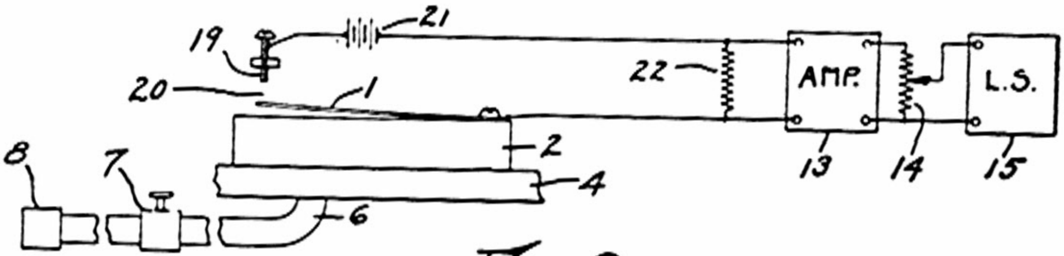
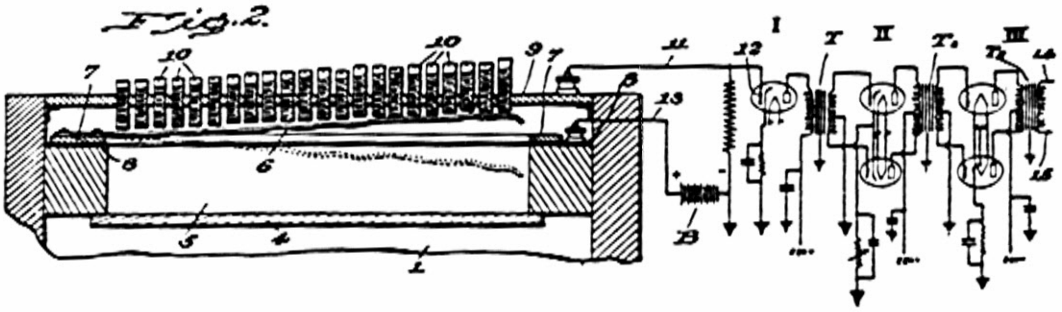


Fig: 8

HOSCHKE



A reed (1 in Miessner; 6 in Hoschke) is fastened to a support at one end, the other end being free to vibrate at its own natural frequency, corresponding to a given musical note, when put into vibration by being struck, or moved by suction. Both parties employ an ordinary suction box (4 in Miessner; 1 in Hoschke). Both employ a conventional pump to create the suction (8, 7, 6 in Miessner; not shown in Hoschke).

Opposite the reed is an adjustable screw (19 in Miessner; 10 in Hoschke) mounted in the frame and connected to a force of electricity (21 in Miessner; B in Hoschke). The opposite end of the electric circuit is connected to the reed in both cases.

Included in the circuit is a coupling resistance (22 in Miessner; not numbered in Hoschke, but shown above and to the right of battery B). The coupling resistance connects the above circuit to the input grid of an electronic amplifier system and loud speaker (13 and 15 in Miessner; 12, 15 in Hoschke).

It will be noted that the reed is of brass and visible, electrically insulated from the adjacent screw, thereby forming an electric circuit beginning with the screw, passing through the coupling resistance and electric force and ending at the reed, thus leaving an open space between screw and reed. This open space acts as the dielectric (insulation) between the plates (screw and reed) of an electric condenser; hence any vibration of the reed causes a corresponding variation of the dielectric of the condenser and so causes a corresponding variation in the voltage across the condenser which variation is communicated to the input of the amplifier and loud speaker. These latter are of conventional form such as used in radio receivers and electric phonographs.

Thus when the reed is vibrated by suction, it vibrates at its natural frequency and causes a corresponding variation of the frequency in the condenser and circuit there-through ("electrostatic coupling"), causing the reproduction of a pure musical note, corresponding in note and tone to that of the reed.

POINT 1.

Miessner conceived of the invention of Count 1 as early as October 6, 1932.

The Examiner of Interferences so held (Appellants' App. 24). The Board of Appeals concurred in this holding (Appellants' App. 31). The Court below apparently accepted this concurrent finding since it makes no reference thereto in its decision (Appellants' App. 17).

POINT 2.

Miessner made a reduction to practice of said Count 1 at least as early as December 15, 1933.

The Examiner of Interferences held that Miessner reduced to practice at least as early as December 15, 1933 (Appellants' App. 26). The Board of Appeals held that it was convinced that Miessner had established a "test" prior to Hoschke's filing date of April 6, 1934 (Appellants' App. 31; and again at Appellants' App. 32).

In this last citation from the Board's opinion the Board held that the test was "a reduction to practice in a musical instrument of the device which was employed". But the Board held that the evidence did not sufficiently prove that the device which was tested was the same as Exhibit 3 (Appellants' App. 32) and based this holding upon the fact that the Board could "see no reason why it necessarily follows that the device tested contained an electrostatic condenser * * *". Upon rehearing the Board declined to have the exhibit opened and inspected, stating that it could not see how an inspection would prove what was inside the exhibit when the test was made (Appellants' App. 34).

The Court below followed the decision of the Board (Appellants' App. 17), and in addition indicated that if Miessner had constructed his pitch pipe he abandoned the idea until the issuance of the Hoschke patent.

Thus all of the tribunals apparently accepted the fact that Miessner did make a test of a musical instrument prior to Hoschke's reduction to practice, but the Patent Office tribunals disagreed as to whether the test constituted a reduction to practice, the Examiner of Interferences holding that the test was a reduction to practice of the invention of Count 1, and the Board disagreeing, the Court below following the Board.

This issue as indicated by the Court below in its Finding of Fact 10 (Appellants' App. 19), is whether the device tested by Miessner was "equipped with an electrostatic pickup."

POINT 3.

Hoschke (conceding conception and disclosure as early as April 14, 1928) was not diligent between October 1932, when Miessner entered the field, and Hoschke's filing date.

The Examiner of Interferences held that Hoschke had failed to show activity prior to August 19, 1933, (Appellant's App. p. 28), and this finding was approved by the Board (Appellant's App. p. 31) and not disturbed by the Court below.

POINT 4.

Miessner was the first to reduce to practice and Hoschke was not diligent even though earlier in conception.

The Examiner of Interferences has reviewed in some detail the fact that conceding Hoschke's disclosure on April 14, 1928, he did nothing whatever between then and August 1933, notwithstanding the fact that he was receiving a substantial salary and could easily have been active. The Examiner of Interferences pointed out (Appellants' App. 27) that Hoschke thought so little of his idea of 1928 that he filed two preliminary statements without even mentioning the 1928 disclosure or model. In the first two preliminary statements he claimed reduction to practice on June 15, 1929, as to which no witness makes any reference (Plaintiffs' Exhibit 26, Hoschke Printed Record, pp. 3, 4 and 5). Apparently he had forgotten all about the 1928 alleged disclosure.

POINT 5.

The Court below erred in holding that Miessner failed to establish by a preponderance of evidence that his Exhibit 3 contained an electrostatic pick-up.

The holding of the Court below (Appellants' App. 19) in Finding 10 to the effect that Miessner failed to establish by a preponderance of the evidence *that he equipped a pitch pipe with an electrostatic pick-up and connected it to an amplifier of an electric piano at the end of* 1933, although holding against Miessner, does, we submit, indicate that the Court below reduced the controversial matter in the case to a very narrow issue, and has correctly stated the one important issue in the case. The Court apparently accepts as a fact that Miessner made a test and that if there was an electrostatic pick-up in Plaintiffs' Exhibit 3, then Miessner had reduced to practice. We respectfully submit that this is the issue here in controversy and will discuss this important issue more in detail hereinafter (pp. 15-19).

POINT 6.

The Court below erred in finding as a fact that Hoschke built and successfully operated as early as December 1928 a model (Defendants' Exhibit 4) involving the invention of Counts 1 and 2.

In its finding 12 (Appellants' App. p. 19) the Court below found as a fact that Hoschke "had successfully operated at least as early as December, 1928, a small, single reed model (Defendant's Exhibit 4) embodying the invention of counts 1 and 2". Hoschke had strenuously urged in the Patent Office that the alleged operation of Exhibit 4, *six years before Hoschke's patent application,* was a *reduction to practice,* but both Patent Office tribunals declined to hold it such.

The Court below, without any new evidence on the subject before it, could not have intended to hold this a reduction to practice—and indeed, it did not do so. If it were held a reduction, defendants would have prevailed without the necessity for even considering whether Miessner's Exhibit 3 was a reduction—which was the issue on which the decision actually turned.

The alleged test of Defendants' Exhibit 4 fails to meet the standard of proof required for a reduction to practice because it was testified to nine years afterwards by only a single, uncorroborated interested* witness, Zuck, who knew little or nothing of its construction at the alleged 1928 date. Zuck an interested party receiving 30% of all royalties received from Hoschke's licensee, Appellants' App. p. 7, paragraph 6, and not skilled in electronics, Appellants' App. p. 27) testified that Hoschke brought Exhibit 4 with him to Cornwall in April, 1928, but it was not operated then (Hoschke Int. Rec. p. 22, Q 61; Tr. p. 634). The contemporaneous letter (Hoschke's Exhibit 1; Tr. p. 359), makes no mention of Hoschke's having made a model or having intended to bring it to Cornwall. Zuck's diary of that time makes no mention of such a device. Again, Zuck's diary does not even corroborate his testimony that the model was operated in December, 1928 (Hoschke Int. Rec. 66, XQ 57, 58; Tr. p. 678). Zuck was unskilled in electronics, did not see Hoschke make the model and knew nothing of the amplifier used in the alleged demonstration (Ib. XQ 57-67).

Mrs. Hoschke's testimony of having seen Exhibit 4 some time in 1927 is not corroboration of Zuck because she was not present at the alleged 1928 test, was ignorant of the technical subject matter involved, and did not know what was in the device tested or whether it had been changed since the alleged test (Hoschke Int. Rec. 93, 97, Q 21, XQ 9-16; Tr. pp. 705-709).

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* Zuck owns a percentage of the royalties accruing from the Hoschke patent (Par. 6 of defendants' answer, Appellants' App. p. 7).

The Interference Examiner in concluding that the test "was not satisfactory", held that the testimony of Zuck regarding its details and operation in 1928 was too meager, and that of Mrs. Hoschke who knew nothing of its construction and operation, was not entitled to any great weight (Appellants' App. p. 27).

Whatever the test of Exhibit 4 was, it was manifestly unsatisfactory and merely an abandoned experiment, as it was dropped and forgotten for seven years.

Hoschke himself knew he had not completed his invention in 1928. He was still alive when the preliminary statements in this case were prepared, and he personally swore to three successive statements.

In the first statement executed by Hoschke December 18, 1935 (Hoschke Int. Rec. p. 3, Tr. p. 615) he swore that he conceived the invention on or about June 15, **1929**, and made no mention of any 1928 device. He executed an amended preliminary statement on January 10, 1936 (Hoschke Int. Rec. p. 4, Tr. p. 616) in which he reiterated the assertion that he conceived the invention on or about June 15, **1929** and made no reference to the alleged 1928 device.

On February 18, 1936 Hoschke executed a third statement (Hoschke Int. Rec. p. 5; Tr. p. 617) in which he alleged conception on or about May 10, 1937 and reduction to practice on April 12, 1928, making no reference to the December 1928 reduction to practice.

Obviously what was done in connection with Exhibit 4 made no impression on Hoschke. If made in 1928 it was forgotten for seven years, until after this interference arose and after two verified statements by Hoschke of a later conception. Hoschke engaged in no further activity in respect to the invention until shortly before his patent application in April 1934; and this activity was directed toward obtaining an amplifier suitable for a test. Hoschke engaged Mumma in December 1933 to assist in the development of the amplifier (Mumma, Miessner Int. Rec., p. 117, Q 31; Tr. p. 572). If the alleged 1928 apparatus and test had been satisfactory there would have been no need for starting to look for an amplifier in 1934.

POINT 7.

The Court below erred in finding that Hoschke had built and tested an electric organ in December, 1933.

In its finding 13 (Appellants' App. p. 19) the Court below found that Hoschke built a full-size organ embodying the invention of counts 1 and 2 and successfully tested it in December 1933. This is the apparatus which Mumma was assisting Hoschke to make in December 1933. Neither of the Patent Office tribunals made any finding of a test in December 1933 and the Court's finding is in error as there is no evidence to support it. Even Zuck did not claim that this apparatus was completed and satisfactorily operated until January 7, 1934 (Zuck, Hoschke Int. Rec. p. 39, Q. 133 to 144; Tr. p. 651). The Patent Office declined to find that this was actually done in January, 1934, Mumma having denied it was done as early as that (Mumma, Miessner Int. Rec. p. 123, Q. 55, 57 and 62; Tr. p. 578).

Miessner's Reduction to Practice.

In the early part of 1933 Miessner's brother left a pitch pipe in Miessner's laboratory (Miessner Int. Rec. p. 45, Q. 21; Tr. p. 500). This was a device known to every musician as one to blow into, or suck from, and cause a reed to vibrate and give out its musical note. The device is shown and described in patent 1,437,747 granted December 5, 1922 (Plaintiffs' Exhibit 31, Tr. p. 328). The original pitch pipe so obtained from Mr. Miessner's brother is in evidence as Plaintiffs' Exhibit 3. A duplicate pitch pipe, arranged to be taken apart, is in evidence as Plaintiffs' Exhibit 28.

Miessner testifies that prior to October 23, 1933 he made certain changes in the pitch pipe, as follows: he (a) drilled a hole through the brass plate on one side, immediately over one of the reeds and in the drilled hole he inserted a tube of insulation and in the insulation screwed a screw to serve as an adjustable terminal; (b) fastened one end of another wire through the rivet hole in one end of the frame; (c) by means of tape he fastened to the side of the pitch pipe a small rubber tube having a hole coinciding with the chamber below the reed, thereby providing a convenient means for causing the reed to vibrate by sucking upon the reed (Miessner Int. Rec. p. 45, Q. 23; p. 67, Qs. 102, 104, 105; Tr. pp. 500, 522, 523).

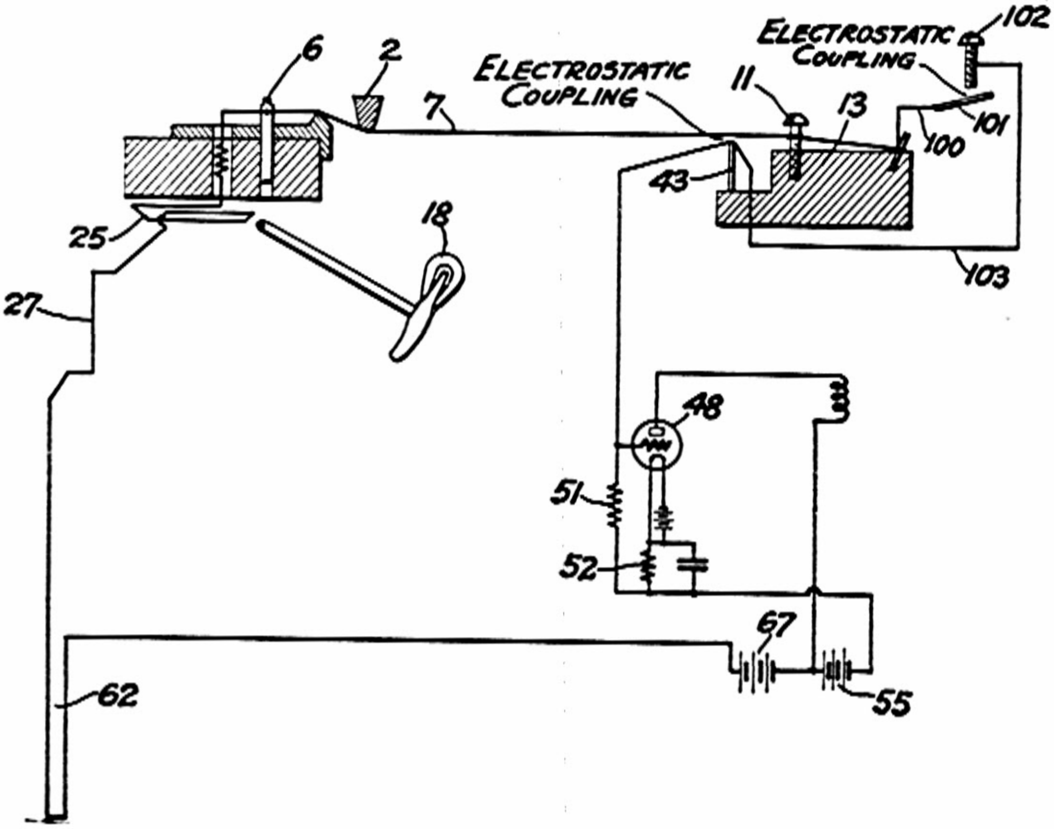
The Exhibit 3 still embodies these changes.

Miessner testifies that on October 23, 1933 he attached the wires, one to the screw and the other to the frame, and also attached the free ends of the wires to the piano so as to make use of the amplifier system. (Miessner Int. Rec. p. 45, Q. 23; pp. 68, 69; Tr. pp. 500, 523, 524).

By sucking in the pipe he caused the reed to vibrate and so varied the electrostatic coupling to reproduce in the amplifier and loud speaker the musical tone of the reed. (Miessner Int. Rec. pp. 46, 47, 67, 68; Tr. pp. 501, 502, 522, 523).

The circuit thus formed is shown in the simplified circuit here inserted (taken from Plaintiffs' Exhibit 29, Tr. p. 325).

From the amplifier batteries 55, 65, the circuit leads through 62 and 25 to one end of the piano string 7 at 6. 7 leads to the support 11. To the end of the piano string Miessner attached one end of the wire 100, the other end of which was attached to the reed 101. Between the reed and the screw 102 is a small space the width of which varies with the vibration of the reed. The other wire 103, one end of which was attached to the screw, was attached



to the point 43 in the piano, from which point wire 51 led to the input of the amplifier and thence to battery 55.

Since the screw 102 and the reed 101 are metallic and the space between them is non-conducting (i.e., a dielectric), these elements form a condenser, and when the reed is vibrated the variation of the space varies the electrostatic pressure between the elements and thus impresses on the amplifier input a variation in voltage corresponding to the vibration of the reed.

Miessner described in detail what he did and recorded a description and a sketch thereof in his notebook No. 18 on page 22 under date of October 23, 1933 (Miessner Exhibit 12, Tr. p. 151; Miessner Int. Rec. pp. 65-69, Tr. pp. 520-524).

Jacobs recalled the test (Miessner Int. Rec. pp. 17-18, Qs. 49-53; Tr. pp. 472, 473) and fixes the date, independent of any record, as early as the first part of December 1933 (Miessner Int. Rec. p. 18, Q. 54; Tr. p. 278). He saw the entries on page 22 of the notebook Exhibit 11 a few days after they were made. (Miessner Int. Rec. p. 92, Q. 84; Tr. p. 547). Jacobs also identified Exhibit 3 as the pitch pipe that was used (Miessner Int. Rec. p. 17, Q. 50; Tr. p. 277). He fixed the date of the test by the fact that it was prior to shipping the Baldwin piano to New York, which was in December 1933 (Miessner Int. Rec. p. 92, Q. 84; Tr. p. 547).

Miessner produced the bills of Steinway & Sons for moving the grand piano (Miessner Int. Rec. p. 79, Qs. 162-175; Tr. p. 534) showing that the piano returned to the laboratory on October 3, 1933, was moved from the laboratory to Mr. Rovinsky's studio on December 5, 1933. It remained there until December 13, 1933, when it was moved to Columbia University, and back to Mr. Rovinsky on December 14, 1933; moved from Mr. Rovinsky on April 30, 1934 to 463 West Street, and from there to Camden on May 2, 1934, and back to Millburn on May 17, 1934 (Miessner Int. Exhibits 14-14F; Tr. pp. 158-163).

Hence Jacobs' identification of the date is fixed at a period before December 5, 1933.

Miss LaRocca, employed as part time stenographer, recalled the pitch pipe; recalled seeing Mr. Miessner operate the same, and that the pitch pipe made an organ sound when operated (LaRocca, Miessner Int. Rec. p. 20, Qs. 15, 18-20; Tr. p. 475). She could not recall the date, though she was typing for Mr. Jacobs at the time (LaRocca, Miessner Int. Rec. pp. 20-21, Qs. 20, 21; Tr. pp. 475, 476). The time sheets of Miss LaRocca's time show that she worked in the laboratory on October 23, 1933 and was paid for typing work done that month (Miessner Exhibit 6, Tr. p. 131; LaRocca, Miessner Int. Rec. p. 23, Qs. 42-48; Tr. p. 283). She was not there thereafter.

There was nothing improbable about Miessner's testimony. Both Miessner and Jacobs were men of unimpeachable character, both were musicians and both were highly skilled radio engineers, and no circumstance has been shown to indicate that they were not telling the truth.

We submit that the Examiner of Interferences was fully justified in holding that Miessner had reduced count 1 to practice at least as early as December 1933.

The Board of Appeals in reversing the Examiner of Interferences found no ground for impeaching or discrediting the testimony of Miessner or Jacobs, but based its opinion solely upon the technical ground of alleged legal insufficiency.

Errors of the Board of Appeals.

Erroneously, we submit, the Board, after pointing out that Jacobs did not, at the time of the test, inspect the interior of Exhibit 3, and LaRocca did not understand its construction, held that

> "it appears that it is necessary to rely upon the testimony of the party Miessner to show that Exhibit 3 is the same device which was tested and upon which the examiner awarded a reduction to practice." (Appellants' App. p. 32.)

and further (Appellants' App. p. 32):

> "The Examiner of Interference has stated:
>
> 'It must therefore be obvious that the pitch pipe structure constituted an electrostatic condenser since it is highly improbable that it would have operated otherwise.'
>
> We can see no reason why it necessarily follows that the device tested contained an electrostatic condenser as it may have been possible that some other electrical means could have been employed for the purpose. It is our opinion, therefore, that the evidence does not sufficiently prove that the device which was tested is the same as Exhibit 3 and therefore reduction to practice should not have been awarded on this test."

Here the Board apparently accepted the proposition that *if* the pitch pipe obviously constituted an electric condenser, then the pitch pipe would have constituted sufficient corroboration of the testimony of Miessner and Jacobs, and would have awarded priority of invention of Count 1 to Miessner.

In this holding we submit that the Board overlooked at least one fact which in and of itself supports the finding of the Examiner of Interferences that it is "obvious that the pitch pipe structure constituted an electrostatic condenser" and answers the failure of the Board to see that the Examiner's statement is correct.

1. That fact is that the vibrating reeds are of *brass,* as may be seen from the outside by looking through the holes over the reed, some of which holes were not covered by the tape. Brass is *non* magnetic, and hence could not have been operated by a magnet and hence the coupling could not have been a magnetic coupling. (Miessner, Appellant's App. p. 16, Q. 16; Jacobs, Ib. p. 12d, RDQ 82.)

2. Still another reason in support of the holding of the Examiner of Interferences which should have been seen by the Board is that there was not room inside the pitch pipe, and furthermore if there had been a coil it would have been on the outside not only because of lack of space, but because of difficulty of arranging the connections, and if the coil were outside, the two wires from the coil to the amplifier would have been seen from the outside; whereas as operated one wire was attached to the screw and the other to the rivet.

In addition to the corroboration by the device itself, there is also the corroboration by Jacobs.

1. Jacobs, a skilled musician, well aware of the interior construction of the pitch pipe, and hearing the musical note, could not possibly have failed to know that there was a vibrating reed on the inside of the device. (Appellant's App. pp. 11, 12, Q 39.) And as a skilled radio engineer

familiar with the early Miessner patent 1,915,859 (Plaintiff's Exhibit 5 (Tr. p. 116), which shows both the electrostatic and the inductive pickup), he knew that the *exterior* part of the electrical circuit was connected at one end to the piano string and from there to the rivet hole which he knew as in all pitch pipes was connected to the reed; that the adjustable screw was insulated from the frame of the pitch pipe; and that the wire from the adjustable screw led back to the amplifier and electric source; and that when the hose pipe was sucked he heard the characteristic reed tone. (Jacobs, Miessner Int. Rec. p. 29, Q 55-62; Tr. pp. 289-291.) In view of his knowledge from patent 1,915,859 he could not possibly have failed to know that the practical coupling would have been one or the other of the two couplings there described as magnetic or electrostatic must be present. He also knew that the magnetic coupling was too bulky to be contained in the pitch pipe case. (Q 37, 38, Appellant's App. p. 11.) Hence there was no chance of fooling Jacobs as to the inside of the pitch pipe, and his testimony, we submit, is to be taken as a full corroboration of the reduction to practice.

2. The exterior of Exhibit 3 with its rubber pipe, bandages and projecting screw, wire connecting the screw to the rivet hole in the frame, known by any musically inclined engineer to be electrically connected with the reed, and the wire connecting the screw to the piano string, is so unusual and odd looking that the device itself impresses its image upon an ordinary observer. To one of Jacobs' perception it is highly improbable that he could have been mistaken when he testified positively that the Exhibit 3 is the same one that he saw at the time of the test and as a part of the test. (Jacobs, Appellant's App. p. 10, Q.31.)

3. Another circumstance recited by Jacobs, showing that the device Exhibit 3 had an electrostatic pickup, is that he heard the characteristic clatter from the loud speaker which occurs when the screw is adjusted so close

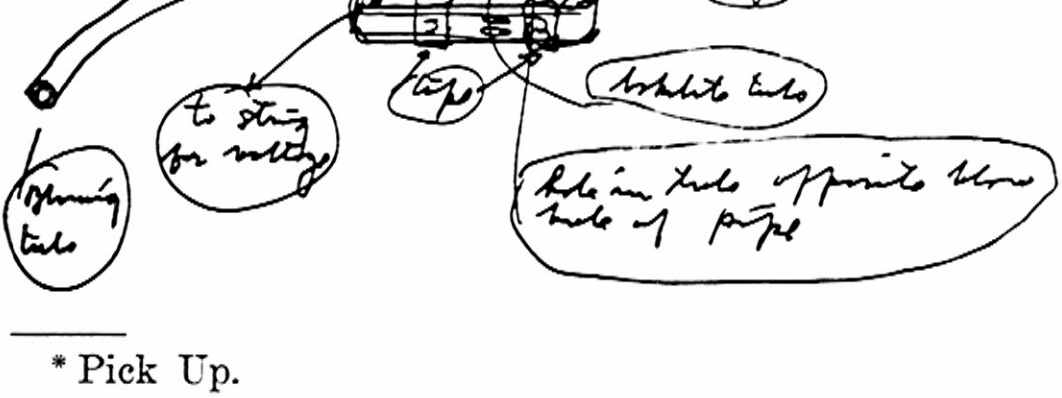
to the reed that the reed in its vibration touches the screw. (Jacobs, Appellant's App. 12.)

4. Miessner's notebooks have not been discredited. They were kept in the usual way of a competent and skillful investigator. The volumes are numbered and dated consecutively, and the entries on the pages of the several volumes are also paged and dated consecutively. His entry of October 23, 1933 in volume 18, Exhibit 12 (Tr. p. 151), is in between the beginning on September 12, 1933 and one on November 9, 1933. No one has suggested any reason why these entries should not be accepted at their face value, especially when Miessner testifies to their correctness (Q 3-15, Appellant's App. pp. 12-14) and Jacobs testifies to seeing the entry of October 23, 1933 within a few days thereafter. (Jacobs, Miessner Int. Rec. p. 93, Q 84, Tr. p. 548.)

The notebook entry of October 23, 1933 not only describes the test but illustrates it. The illustration is here reproduced, with the text in the notebook.

The text of the entry reads as follows:

> "Tried out with a small pitch pipe the blown reed organ scheme today. Mounted an insulated P.U.* screw end on to the reed & connected reed frame to one of strings of Baldwin & screw to one of Pickup bars. I fastened a rubber tube to pitch pipe to blow this reed through the tube.



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* Pick Up.

> "The reproduction thru speaker sounded just like the pitch pipe sound itself; I would have expected a duller sound, less rich in harmonics."

5. Miessner and Jacobs are both men of standing, both are musical and both are radio engineers. They were testifying in November 1936 as to events occurring in October 1933, a period of only three years. It is not at all likely that their recollection would be dimmed by the elapse of this short time.

6. The only suggestion as to what other kind of coupling than an electrostatic condenser could have been in the pitch pipe was the innuendo created during the cross-examination of Jacobs (Appellant's App. pp. 12, 12a Xqs. 53-58), that there might have been inside the box a magnetic pickup coil such as is shown in Fig. 6 of the Miessner application 758,155 (Exhibit 25, Tr. p. 236) which shows an electromagnetic coil 16 around the magnet bar 16a above the reed 1. Not only is the absurdity of this contention shown by a mere comparison with the pitch pipe, but both Jacobs and Miessner have sworn to the impossibility of putting the magnetic pickup coils inside the pitch pipe box, and Exhibit 3 itself bears them out.

Errors of the District Court With Respect to Miessner's Reduction to Practice.

These are:

1. The District Court rejected Miessner's claim to a reduction to practice upon the ground that "a third witness," who did not understand the operation of the pitch pipe, fixed the date as of February, 1934; Jacobs did not examine the interior of the pitch pipe; and the testimony of Miessner at the trial was substantially the same as that offered by him in the Patent Office.

The third witness here referred to evidently is LaRocca, a part-time stenographer just out of high school (Miessner, Int. Rec. p. 19, Qs. 10, 11; Tr. p. 279). Miss LaRocca had no circumstances connected with the event which would enable her to fix any definite time (Ib. 21, Q. 31; Tr. 281), but offhand said it was "around February 1934". Obviously Miss LaRocca's testimony was not of the character of that of Miessner and Jacobs, but the fact that Miss LaRocca was not particularly interested in the matter and had nothing upon which to base her testimony except her recollection does not in any manner weaken the testimony of either Miessner or Jacobs, especially as they could fix the date by reference to the time of shipment of the piano, which was a matter of record. The Examiner of Interferences so held (Appellant's App. 25), and the Board of Appeals did not reject the Examiner's finding.

The Court below also seemed to think that there was some discrepancy between the testimony of Miessner and Jacobs as to the date of the test, the Court's opinion stating (Appellants' App. 17) that Miessner tesified that the date of the operation was October 1933 and that Jacobs "fixed the date as December 1933". In point of fact Jacobs testified (Exhibit 26, Miessner Int. Rec. 18, Q 54):

> "Q. 54. Without referring to any record, can you fix the time more definitely?
>
> A. I can fix the date *at least as early as* the first part of December, 1933 because I distinctly recall that at that time the piano was taken away from these premises for demonstration at Columbia University, New York City and that it never returned to these premises during the remainder of my regular employment with Mr. Miessner." (Italics by counsel.)

The date the piano was taken away was established as December 5, 1933 (*ante* p. 14).

Jacobs also testified that he could fix the date as October 23, 1933 (Exhibit 26, Miessner Int. Rec. 93; Tr. p.

548) by reason of being shown Miessner's notebook entry of that day (Exhibit 12) "either on the day he made it or within a few days thereafter".

As to the fact that Jacobs did not examine the interior of the pitch pipe, but did examine the exterior, and as above pointed out he could not have failed to note the unusual wrapping, the tube, the two wires placing in series the screw and plate upon which the reeds are mounted, and heard the manifestations in the loud speaker indicative of an electrostatic coupling, all these, as above pointed out, clearly outweigh the mere innuendo that the coupling *might* have been something else.

2. The Court below also held that the testimony offered by Miessner at the trial was substantially the same as that offered in the Patent Office.

Miessner here, as well as Jacobs, pointed out that the reed was of brass. In the Patent Office this fact was not made clear, nor appreciated. Had it been appreciated the Board of Appeals would by merely looking in the holes above the reeds have seen the brass reeds and would have known that brass is non-magnetic and could not be moved by an electromagnet.

In addition, Jacobs brought out the fact that he heard the characteristic clatter from the loud speaker when the electrostatic coupling is present.

3. The Court below also states (Appellant's App. 17) that if Miessner had constructed this pitch pipe, as he claims, he abandoned that idea until the issuance of the Hoschke patent. It may be observed that Miessner does not claim "to have constructed" the pitch pipe. The pitch pipe was a well known musical instrument, and one of them was given to Miessner by his brother. This holding of the Court below is based upon Defendant's Exhibits 14 (Tr. p. 402) and 15 (Tr. p. 440), two publications, one published in January 1935 and the other in November 1936.

At the date of both of these publications Miessner was actively prosecuting his claims in the Patent Office. The interference had been declared in October, 1935, and was proceeding vigorously. Abandonment of an invention is not to be presumed from mere inferences, and is negatived by the pendency of a patent application for the invention. *Victor Talking Machine Co. v. American Graphophone Co.* 140 Fed. 860, 865, 866, S.D.N.Y.; Affirmed 145 Fed. 350 (C.C.A.2).

The Exhibit 14 is a paper in which Miessner discusses various commercial electronic organs. On page 1457 he refers to the "most recent developments in this country" and the fact that "One such, the work of Hoschke, has been placed on the commercial market by the Everett Piano Company", and on page 1458 illustrates the Everett Orgatron and also the Miessner electronic organ. Miessner was not discussing the relative claims of inventorship in this article; in fact at the date thereof he was actively prosecuting his case in this interference, which had been declared on November 21, 1935.

The Exhibit 15 was another article by Miessner in which he was discussing the "versatility" of various instruments. "Versatility" is the ability to represent widely different tones. Miessner pointed out the well known fact that the vibrating reeds are characterized by only relatively simple vibrations; they are not good for a wide variety of harmonic compositions (p. 185). On the other hand, the group of stringed instruments is rich in fundamental and harmonic vibrations (p. 185). This observation in no sense goes so far as to say that reeds are not useful in musical instruments such as the organ.

4. The Court below further held that the testimony offered by Miessner at the trial was substantially the same as that offered by him in the proceedings in the Patent Office. Insofar as this holding implies consistency of the testimony at the trial with that in the Patent Office, it is

undoubtedly free of error. But insofar as it imputes a failure to prove significant further facts, we submit it is erroneous. For among the facts *over and above* the testimony in the Patent Office, there was brought out at the trial, without contradiction:

(a) Miessner at Appellants' App. 16, Q. 26, testified that the pick-up in the pitch pipe tested could not possibly have been magnetic "because the reeds are brass and they could not affect the magnetic field and, therefore, would cause no pick-up action". Jacobs confirms this (Appellants' App. 12d, RDQ82).

(b) Testimony of Jacobs (Appellants' App. 11, 12d, Q. 39, RDQ81, first sentence), as a qualified expert, that there was not room within the device which he saw tested for anything beyond the extremity of the screw whose outer end was visible outside the device. And mere examination of the exhibit offers the strongest confirmation of this.

(c) *Factual* testimony of Jacobs (Appellants' App. 11, 12d, Q. 39, RDQ81, second sentence), that the device which he saw tested was put together with eyelets which had not been tampered with—from which, not merely in Jacobs' opinion but also necessarily and obviously to any one, it is evident that nothing of larger dimension than the small diameter of the hole could have been introduced into the device. An electromagnetic pick-up (even assuming there had been space to hold it within the device, which there was not) could not have been *introduced* into the device without removing one or both eyelets.

(d) *Factual* testimony of Jacobs (Appellants' App. 11, Q. 39) that during the test he heard a loud and bad clatter from the loudspeaker when Miessner adjusted the screw to certain positions, and that he was familiar with this very noise as the phenomenon attending the bringing of an electrode (electrostatic pick-up) so close that the vibrator is contacted by it. It does not take Jacobs' opinion to understand, but is well realized by any one when it is recalled that this contacting involves the momentary short-circuitings of very high voltage, that the magnitude and violence of this noise is utterly peculiar to the electrostatic pick-up, and is of a magnitude many times that of any disturbance which can be caused in the loudspeaker by maladjustment of an electromagnetic pick-up.

These additionally proven facts more than supply the *single* deficiency which the Board attributed to Miessner's record in the Patent Office—which was merely a lingering doubt as to whether the record properly negatived the use of something other than an electrostatic condenser or pick-up. Even on that record the Examiner of Interferences did not entertain, and we submitted above that the Board should not have entertained, that doubt. But clearly on the record as amplified at the trial no such doubt can remain.

CONCLUSION

Miessner has proved a reduction to practice of the subject matter of count 1 on October 23, 1933 or at least as early as December 15, 1933, the date of the test of Exhibit 3. Hoschke did not reduce his invention to practice any earlier than January 7, 1934 or until the filing date of his application, April 6, 1934, the date awarded him by the Examiner of Interferences (Appellants' App. p. 27). Since Hoschke was the last to reduce to practice Miessner should have been awarded priority, as Hoschke has no proof of diligence running from April 1934 back to 1932 or 1930 when Miessner proved conception—and the Examiner of Interferences so held (Appellants' App. p. 24) without contradiction by any other tribunal. *Givens v Warren,* 44 App. D.C. 10; 216 O. G. 1013.

We respectfully submit that the judgment of the Court below should be reversed as to Count 1 and a decree should be entered authorizing the Commissioner of Patents to issue a patent to plaintiffs accordingly.

Respectfully submitted

CLIFTON V. EDWARDS

SPENCER B. MICHAEL

D. GORDON ANGUS

Counsel for Appellants.

APPENDIX A

Statutes Involved

Revised Statutes, Section 4915. Act of February 9, 1893, Chapter 74, Paragraph 9, 27 Statutes at Large 436; amended by Act of March 2, 1927, Chapter 273, Paragraph 11, 44 Statutes at Large 1336; amended March 2, 1929, Chapter 488, Paragraph 2 (b), 45 Statutes at Large 1476.

> Bill in equity to obtain patent.—Whenever a patent on application is refused by the Commissioner of Patents, the applicant, unless appeal has been taken from the decision of the board of appeals to the Court of Appeals of the District of Columbia (United States Court of Customs and Patent Appeals) and such appeal is pending or has been decided, in which case no action may be brought under this section, may have remedy by bill in equity, if filed within six months after such refusal; and the court having cognizance thereof, on notice to adverse parties and other due proceedings had, may adjudge that such applicant is entitled, according to law, to receive a patent for his invention, as specified in his claim, or for any part thereof, as the facts in the case may appear. And such adjudication, if it be in favor of the right of the applicant, shall authorize the commissioner to issue such patent on the applicant's filing in the Patent Office a copy of the adjudication, and otherwise complying with the requirements of law. In all cases, where there is no opposing party, a copy of the bill shall be served on the commissioner; and all the expenses of the proceeding shall be paid by the applicant, whether the final decision is in his favor or not. In all suits brought hereunder where there are adverse parties the record in the Patent Office shall be admitted in whole or in part, on motion of either party, subject to such terms and conditions as to costs, expenses, and the further cross-examination of the witnesses as the court may impose, without prejudice, however, to the right of the parties to take further testimony. The testimony and exhibits, or parts thereof, of the record in the Patent Office when admitted shall have the same force and effect as if originally taken and produced in the suit.

BRIEF AND APPENDIX
FOR APPELLEES

IN THE

United States Court of Appeals

FOR THE DISTRICT OF COLUMBIA

No. 7962

BENJAMIN F. MIESSNER, ET AL., *Appellants,*

v.

WILHELMINA HOSCHKE, ET AL., *Appellees.*

Appeal from the District Court of the United States for the District of Columbia.

MUNN, LIDDY, GLACCUM & KANE,
24 West 40th St., New York City,
Attorneys for Appellees.

HARRY E. SEIDEL,
1319 F St., N. W.,
Washington, D. C.,
Solicitor for Appellees.

ORSON D. MUNN,
DANIEL H. KANE,
24 West 40th St., New York City,
Of Counsel for Appellees.

PRESS OF BYRON S. ADAMS, WASHINGTON, D. C.

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IN THE

United States Court of Appeals

FOR THE DISTRICT OF COLUMBIA

No. 7962.

BENJAMIN F. MIESSNER and MIESSNER INVENTIONS, INC., *Appellants*,

v.

WILHELMINA HOSCHKE, EVERETT PIANO COMPANY and VICTOR I. ZUCK, *Appellees*.

BRIEF FOR APPELLEES.

COUNTER-STATEMENT OF THE CASE.

Nature of Suit.

This is an appeal from a final judgment of the United States District Court for the District of Columbia, dismissing a suit under Section 4915 of the Revised Statutes (35 U. S. C. 63) arising out of Patent Office Interference No. 71788. The suit was filed by the losing party of the interference and his assignee for the purpose of compelling the Commissioner of Patents to issue a patent to them for the invention involved in the interference.

The interference and this suit involve two counts which are claims 1 and 3 of patent No. 2,015,014, granted to the late Frederick A. Hoschke on September 17, 1935. Since the declaration of the interference, Mr. Hoschke died and the patent has become the property of his widow, Wilhelmina Hoschke, one of the defendants herein.

After the issuance of the Hoschke patent, plaintiff Benjamin F. Miessner copied the two claims involved in this controversy, in his patent application, Serial No. 758,155, and the interference referred to above was declared.

The Hoschke patent was applied for on April 6, 1934, more than eight months prior to the filing of the Miessner application, on December 19, 1934. This is significant because Miessner is a professional inventor and, as such, is familiar with the requirement of diligence. Certainly, it is a reasonable presumption that he would file an application within a month or two after he completed an invention.

Parties.

The parties to this suit are as follows:

Plaintiff, Benjamin F. Miessner is the applicant in patent application, Serial No. 758,155, which was involved in the aforesaid Interference No. 71788, and plaintiff, Miessner Inventions, Inc. is the assignee of the Miessner patent application.

Defendant, Wilhelmina Hoschke, is the owner of patent No. 2,015,014, which was issued to her deceased husband, Frederick A. Hoschke. This patent was also involved in the aforesaid Interference No. 71788. Defendant, Everett Piano Company is the exclusive licensee under the Hoschke patent. Defendant Victor I. Zuck was under contractual relationship with the late Frederick A. Hoschke by an agreement dated October 24, 1934, and, in our opinion, is neither a necessary nor a proper party to this suit.

Nature of Invention.

A more complete description of the nature of the invention involved in this controversy will facilitate an understanding of the issues.

The invention relates to a musical instrument consisting of an electronically operated organ having tonal qualities and characteristics comparable with a pipe organ, but which is substantially less cumbersome and less expensive. This is explained in the Hoschke patent, from which the claims in controversy originated, as follows:

> "An instrument constructed according to my invention has numerous possibilities, but perhaps one of the most important uses is in the production of a high class inexpensive musical instrument different from the reed organ, but employing reeds as described. There are countless numbers of discriminate musicians who would like to possess pipe organs, but who cannot afford to buy such an instrument. A good pipe organ which might satisfy these musicians would take up a great deal of room, have a large number of stops, involve complicated and expensive mechanism, and require considerable power to operate it. A musical instrument constructed as described above could be built for a fraction of the cost of a good pipe organ and the tones obtained would vie with the finest voiced pipes without a single suggestion of reed tones."

Stated briefly, the invention set forth in the two counts or claims resides in the provision of a condenser microphone circuit in which one plate of the condenser is a vibrating free reed, such as a melodeon reed, and the other plate is relatively stationary and in inductive relationship with respect to the free reed. The microphone circuit is connected to a conventional amplifier and the amplifier, in turn, is connected to a conventional loud speaker.

The instrument is operated by energizing the circuit and by vibrating the reed through the medium of a current of air. The vibrations of the reed are utilized electrically to cause changes in the capacity of the condenser, setting up electrical impulses which are amplified and then by means of a loud speaker are translated into mechanical vibrations or sound. The sound coming from the vibrating reed is not utilized, and every effort is made to suppress or dampen the sound. Each reed represents one note of the organ, and it is necessary to provide a separate reed for each note.

The two counts or claims involved in the controversy are quite similar. Count 1 reads as follows:

> Count 1. In a musical instrument, a microphone having a condenser, said condenser consisting ofa reed secured at one end, the remaining portion of the reed being free for unrestricted vibration, said reed forming one plate of the condenser and a second plate in inductive relation with respect to the reed."

Count 2 is identical with Count 1 with the exception of the last clause. The last clause of Count 2 specifies that the second plate is adjustable with respect to the reed. In explanation of this feature, the Hoschke patent shows the relatively stationary plate as consisting of one or more adjustable screws, indicated in the Hoschke drawing by the numeral 10.

SUMMARY OF ARGUMENT.

In this brief, we propose to show that under the well-known doctrine laid down by the Supreme Court in the case of *Morgan* v. *Daniels,* the appellants must prove their case by more than a mere preponderance of the evidence, and we propose further to show that appellants have utterly failed to sustain their burden of proof.

In support of this contention, we point out that the appellants have failed to prove that Miessner made the invention prior to the filing of Hoschke's patent application. Thus, the construction of the model (Miessner's Exhibit 3) at the time of its alleged operation, has not been proven by competent evidence, and depends solely upon the testimony of Miessner. In addition, the date of its alleged operation is a matter of complete confusion since each of the three witnesses who testified about it fixed different dates varying from October, 1933, to February, 1934. We also point out that Miessner has publicly attributed the invention to Hoschke, and this constitutes an admission which, in and of itself, creates sufficient doubt under the doctrine of *Morgan* v. *Daniels* to require the dismissal of the suit.

We show furthermore, in our argument, that Miessner's actions and his contemporaneous public writings prove that if he did operate exhibit 3, the test was not successful and constituted merely an abandoned experiment. We then show that the evidence introduced by appellants in this suit is substantially the same as that presented before the Patent Office, and accordingly, under the doctrine of *Morgan* v. *Daniels*, it must necessarily follow that the appellants have failed to sustain their burden of proof.

In addition to showing that appellants have failed to prove their case, we point out that the appellees have proven that Hoschke completed the invention prior to any date claimed (even though not proven) by Miessner. Thus, we show that Hoschke conceived the invention and embodied it in a working model, which was successfully operated, in the year 1928. We also show that Miessner's evidence proves that Hoschke completed and successfully operated a full size organ embodying the invention in December, 1933.

Under the circumstances, we believe that we have shown, in our argument, not only that appellants have failed to establish their case, but that the appellees have proven sufficient facts to clearly establish that Hoschke completed the invention prior to any date contended for by Miessner.

ARGUMENT.

We wish to point out that apparently there is no conflict as to Count 2. Both tribunals of the Patent Office, as well as the court below, found that Hoschke was the first inventor of Count 2.

In their brief (and we refer the court particularly to the statement of points appearing on Page 5 thereof), appellants make it quite clear that they are contending only for Count 1. This is a tacit admission by appellants that Hoschke is the inventor, at least of the subject matter of Count 2.

Point I.

Appellants must prove their case by more than a mere preponderance of the evidence.

Throughout our consideration of this case it is important to bear in mind that the present suit is in the nature of a suit to set aside a judgment. The appellants must be held to a very high standard of proof. It is not sufficient for them to prove their case by a mere preponderance of the evidence. This principle was laid down by the United States Supreme Court in the case of *Charles H. Morgan* v. *Fred H. Daniels,* 153 U. S. 120, 38 L. Ed. 657, in which the Court stated that a suit of this character brought by the losing party to a Patent Office Interference, was "something in the nature of a suit to set aside a judgment, and as such is not to be sustained by a mere preponderance of evidence." In the same case the Court also stated:

> "Upon principle and authority, therefore, it must be laid down as a rule that where the question decided in the Patent Office is one between contesting parties as to priority of invention, the decision there made must be accepted as controlling upon that question of fact in any subsequent suit between the same parties, unless the contrary is established by testimony which in character and amount carries thorough conviction."

This principle of law has been consistently applied by the courts since the case of *Morgan* v. *Daniels.* One of the more recent cases in this circuit is the case of *Bayer* v. *Rice,* 64 App. D. C. 107, 75 F. (2d) 238, decided in 1934, in which case this court stated:

> "An action under section 4915, R.S., has the characteristics of a proceeding to set aside a judgment, and, as such, is not to be sustained by a mere preponderance of evidence."

Another recent case of interest in which the same principle of law is applied is the case of *General Talking Pictures Corp.* v. *American Triergon Corp. et al.,* 96 F. (2d) 800 (C. C. A. 3rd).

The principle of law laid down in *Morgan* v. *Daniels* is the guiding principle of this case and it is significant that it has been totally ignored by the appellants in their brief.

Point II.

Appellants have failed to prove that Miessner made the invention prior to the filing of Hoschke's application.

It must be remembered that the application for the Hoschke patent was filed on April 6, 1934, and that the Miessner application was not filed until more than eight months later. Accordingly, under the doctrine of *Morgan* v. *Daniels* (*supra*), the appellants must prove by more than a mere preponderance of the evidence that Miessner completed the invention prior to April 6, 1934.

Let us examine the record and see whether the appellants have sustained their burden of proof in this respect. Appellants contend that the pitch pipe (Miessner Exhibit 3) was constructed and successfully operated prior to the filing of the Hoschke application, and constitutes a reduction to practice. We contend that the construction of the pitch pipe at the date of its alleged operation was not properly proven, and that the date of its alleged operation is in such a state of confusion as to cast serious doubt upon all of the evidence pertaining thereto. On this question, we find the following comment appearing in the opinion of the District Court:

> "He (Miessner) testified that the date of the operation was October, 1933, another witness, Jacobs, an attorney of Miessner, fixed the date as December, 1933, and a third witness as February, 1934. The last witness did not understand the operation of the pitch pipe, and Jacobs did not examine the interior of the pitch pipe. The testimony offered by Miessner at the trial was substantially the same as that offered by him in the proceedings in the Patent Office.
>
> "I am not satisfied that this pitch pipe was constructed and operated at the time which Meissner contends. Apart from the discrepancy of the testimony of the witnesses as to the time of its operation, the only

> evidence as to its real construction and the manner of its operation is that of Miessner himself." (Appellants' App. 17)

Miessner testified that he provided an ordinary pitch pipe with an electrostatic pickup by inserting a screw through one of the apertures in the side of the pitch pipe. Bakelite insulation was placed around the screw and adhesive tape was wound around the pitch pipe so as to conceal the point where the screw entered the side of the pitch pipe and so as to also conceal the adjacent apertures. The pitch pipe was then supposedly connected to the circuit of the Baldwin piano and operated by blowing or sucking through a rubber tube.

Admittedly the only witness claiming to have personal knowledge of the construction of the pitch pipe was Miessner. Miss LaRocca had no mechanical or electrical knowledge whatsoever, and knew nothing about the construction of the device. In this connection she testified: "No, I didn't know how it was constructed or operated but I did see Mr. Miessner working on it at his desk." (Appellees' App. 5.)

Both at the trial and in the interference proceedings, Jacobs testified at length as to his opinion of the construction of the pitch pipe. On cross-examination, however, he admitted that he did not help to construct the device and that he had not taken it apart until the interference was instituted. His testimony on this subject is as follows:

> XQ. 6. "Did you help to construct the pitch pipe?"
> A. "I did not."
> XQ. 7. "When did you first take it apart to examine it?"
> A. "The first time that I saw the inside of that other than through the apertures which are inherently provided in the case was last fall, that is to say a year ago when this interference was first instituted, or at about that time." (Apppellees' App. 6.)

Accordingly, we are compelled to rely upon the uncorroborated testimony of Meissner as to the construction of the pitch pipe. It is an elementary principle of patent law that the testimony of a party to an interference proceedings or to a suit such as this, arising out of an interference proceedings with respect to actual reduction to practice, must be fully corroborated.

See the following cases: *Podlesak* v. *McInerney,* 26 App. D. C. 399; *Sundberg et al.* v. *Schmitt,* 58 App. D. C. 292, 29 F. (2d) 880; *Janette* v. *Folds et al.,* 38 F. (2d) 361; *Brydle* v. *Honigbaum,* 54 F. (2d) 147; *Fausek* v. *Vincent,* 92 F. (2d) 909; *King* v. *Young,* 100 F. (2d) 663; *Collins* v. *Olsen,* 102 F. (2d) 828; *Petrie* v. *De Schweinitz,* 19 App. D. C. 386.

Since the construction of the pitch pipe at the time it was allegedly operated depends entirely upon the uncorroborated testimony of Miessner, it follows that the pitch pipe was not properly proven and that appellants have failed to establish a reduction to practice.

It is contended by the appellants that Miessner's testimony is corroborated by the entry in his laboratory notebook which was purported to have been made on October 23, 1933 (Miessner Exhibit 12). The notebook entry, however, is merely an uncorroborated self-serving declaration without any probative force, because Jacobs admitted that he could not recall the date on which the notebook entry was first shown to him. (Appellees' App. 7.)

The situation with respect to the laboratory notebook is analogous to the situation presented in *Collins* v. *Olsen,* 102 F. (2d) 828, in which it was contended by Olsen that his testimony with respect to reduction to practice was corroborated by contemporaneous written reports made by him to his superior in the regular course of his business. The court held that these reports were competent evidence of conception but were mere self-serving declarations on the question of reduction to practice. In this connection the court stated:

> "We must conclude that statements in reports by Olsen, no matter how clear, as to what he used, what he did and what the results were, cannot be accepted as proof of reduction to practice, unless fully corroborated, even though such reports were made to an official who had

> such confidence in their accuracy that he was willing to act upon them without complete and independent investigation. While they constitute good evidence of conception, they are self-serving on the question of reduction to practice.''

It is also contended by the Appellants that the pitch pipe (Miessner Exhibit 3) in and of itself corroborates Miessner's testimony. However, this is an attempt by Miessner to lift himself by his own bootstraps, for we see that the pitch pipe was in Miessner's custody from the time of its alleged operation, and Jacobs did not see it again nor did he examine its construction until after the interference was declared. Thus, we find that the identity of the pitch pipe and the construction at the time that it was operated, depends solely upon the uncorroborated testimony of Miessner.

It is also argued by the appellants that the testimony of Miessner is corroborated by the opinions expressed by Jacobs and Miessner that the pitch pipe must have been provided with an electrostatic pickup and must have been connected in a condenser microphone circuit.

The opinion expressed by Jacobs does not constitute the type of corroboration required in order to prove reduction to practice. A somewhat similar situation arose in the case of *Fausek* v. *Vincent*, 92 F. (2d) 909, which involved an interference proceeding relating to a pressure regulating valve. One of the applications in the interference was filed by joint inventors, Arthur Fausek and Irwin Fausek. Both of the joint inventors testified as to the construction and operation of a pressure regulator embodying the invention, and the testimony of each of the joint inventors was corroborated by the testimony of the other joint inventor. In addition, a skilled machinist, named Kessel, saw the pressure regulator in operation. He testified that he saw the exterior of the pressure regulator and a portion of the interior. However, he did not observe whether the head of the valve stem was ``imperforate,'' as required by the count in the interference. He did testify, however, that as an expert he could determine from the operation of the regulator whether there was an aperture in the head of the valve stem. He said that if there was such an aperture, there would be a hissing sound, and since he heard no hissing sound he expressed the opinion that there was no aperture.

The court held that the opinion expressed by the skilled machinist was not sufficient corroboration. With respect to Kessel's testimony the court stated:

> "In view of this testimony, which shows that the witness did not know from visual observation whether or not the head of the valve stem was imperforate, we do not think that the testimony of appellants respecting the successful operation of Exhibit 3 was sufficiently corroborated, and without such corroboration the test of Exhibit 3 cannot be held to be a reduction to practice of the invention. *Janette* v. *Folds et al.,* 38 F. (2d) 361, 17 C.C.P.A. (Patents) 879."

In the above case it must be remembered that two joint inventors testified as to the reduction to practice, and a skilled machinist corroborated every single detail with the exception that he did not see the imperforate head of the valve stem. As to this feature, he testified that he could tell from experience whether the head of the valve stem was imperforate and expressed the opinion that it was. Nevertheless, the court held the testimony of the inventors was not sufficiently corroborated.

In the present case we do not have the testimony of two joint inventors, but depend solely upon the testimony of Miessner. Furthermore, Jacobs did not see the interior of the pitch pipe and did not know from visual observation what the internal construction of the pitch pipe was, nor did he know how the inner end of the protruding screw was formed, nor how it was disposed with respect to any of the reeds.

In his testimony, Jacobs assumes that the reeds of the pitch pipe were made from brass at the time of their operation. But this is a mere assumption, *not supported by any visual observation made by him at that time.* For all he knows they might have been made from steel, and if they were, the protruding screw on the pitch pipe might have been an electromagnetic pickup or an inductive pickup. In this connection it is significant that Miessner's patent application involved in this interference shows electromagnetic or inductive pickups as well as electrostatic pickups, and Jacobs so testified (Appellant's App. 12, 12a). Also the electronic pianos made by Miessner were at times provided with electromagnetic pickups, and Jacobs so testified. (Appellees' App. 1, 2.) With regard to Miessner Exhibit 3 the Board of Appeals stated:

> "We can see no reason why it necessarily follows that the device tested contained an electrostatic condenser as it may have been possible that some other electrical means could have been employed for the purpose."

One other electrical means that could have been employed is an electromagnetic or an inductive pickup. Jacobs predicates his opinion, that such a pickup could not be employed, upon the wholly unwarranted assumption that the reeds were made of a non-ferrous material. This assumption was not supported by any visual observation by Jacobs. Furthermore, it is possible that some entirely different electrical means was employed. It is possible that some type of resistance was used. Regardless of what was used, however, one thing is certain, and that is Jacobs did not visually observe that the pitch pipe embodied a condenser, and this is required by both counts.

In addition to the foregoing, we find that considerable doubt as to the operation of the pitch pipe is created by the conflicting testimony of appellants' witnesses as to the date of the alleged operation. Thus, Miss LaRocca testified that the operation took place in February, 1934. (Appellees' App. 4.) Jacobs testified that the pitch pipe was operated around December, 1933. (Appellees' App. 6.) Miessner apparently was dissatisfied with the dates fixed by his other two witnesses, and testified that the demonstration took place in October, 1933.

With regard to Miss LaRocca's testimony concerning the alleged operation of the pitch pipe, appellants' brief states: "She could not recall the date although she was typing for Mr. Jacobs at the time". (Appellants' Brief page 16.) This statement is a serious mistake on the part of appellants' counsel. Miss LaRocca unhesitatingly fixed the date as "around February, 1934", and then testified as to surrounding and collateral circumstances which helped to fix the date. Thus, Miss LaRocca testified as follows:

> "Q. 30. Do you recall approximately when that event happened?"
>
> "A. Around February, 1934." (Appellees' App. 4.)

After testifying as above, Miss LaRocca was shown a pamphlet dated January, 1934, and asked whether she prepared the material for the pamphlet. She was then asked whether the work on the pamphlet "was performed before or after you heard Mr. Miessner operate the pitch pipe you testified to above". Her unequivocal answer was: "Before". (Appellees' App. 4.) Miss LaRocca also testified that the pitch pipe demonstration took place at the end of her period of employment for Miessner. (Appellees' App. 5.) Miessner's Exhibits 16 and 17 (Appellees' App. 15, 16) show that Miss LaRocca worked for Miessner through the month of February, 1934, and Jacobs testified that Miss LaRocca worked for Miessner until about March, 1934. (Appellees' App. 6, 7.)

In this connection we wish to refer to another serious misstatement of facts appearing in appellants' brief. With reference to the period of Miss LaRocca's employment by Miessner, appellants' brief states: "The time sheets of Miss LaRocca's time shows that she worked in the laboratory on October 23, 1933 and was paid for typing work done that month * * *. She was not there thereafter." (Appellants' Brief p. 16.)

Referring again to Miessner's Exhibit 17, referred to above, (Appellees' App. 16) this exhibit is a time sheet showing the hours of Miss LaRocca's employment for Mr. Miessner. It clearly shows that she was working for Miessner in February, 1934, and Miessner's witness, Jacobs, testified that she was employed there at least up until March, 1934. (Appellees' App. 6, 7.) Under the circumstances, it is difficult to account for the misstatements appearing in appellants' brief, as quoted above.

Point III.

Miessner has publicly attributed the invention to Hoschke.

Hoschke's Exhibit 14 is an important new piece of evidence introduced at the trial of this case which was not before the Patent Office. It is a paper prepared by Benjamin F. Miessner, and entitled "Electronic Music and Instruments." Miessner admitted that he prepared the paper. (Appellees' App. 2.) The exhibit bears the notation that the paper was presented on May 6, 1936 and was published in "The Institute of Radio Engineers", in November, 1936.

The paper contains a description of various types of electronic musical instruments. On page 1457, we find the following admission:

> "The most recent developments in this country are the electronic organs using wind-blown harmonium reeds. One such, *the work of Hoschke*,[44] has been placed on the commercial market by the Everett Piano Company." (Appellees' App. 23.)

The numeral 44 appearing next to the name Hoschke in the quotation refers to a footnote reading as follows:

> "[44] F. A. Hoschke, Patent 2,015,014."

On cross-examination Miessner admitted that the above quotations referred to the Hoschke patent involved in this controversy. (Appellees' App. 2.)

In other words, in Hoschke Exhibit 14, Miessner admitted that the organ disclosed in patent No. 2,015,014, and placed on the market by Everett Piano Company, was the "work of Hoschke." Obviously the word "work" as used by Miessner in his paper is a synonym for "creation" or "invention."

Should there be any doubt as to the identity of the invention thus attributed to Hoschke, the same page of Exhibit 14 describes it as follows:

> "It follows the usual reed and pipe organ design with one bank of reeds for each timbre, and with pneumatic coupling devices for blowing more than one reed with a given key; that is, for introducing octaves, mixtures, and so forth. Electrostatic pickup is used for translating the reed vibrations into alternating voltages which are amplified and reproduced. A larger model, having two manuals and pedal board, has just been announced. This is shown in Fig. 14." (Appellees' App. 23, 24.)

Fig. 14 in the Exhibit shows an Orgatron of the Everett Piano Company and bears the following title: "Everett Orgatron Model MD-1, using wind-blown Harmonium reeds with electrostatic pickup."

The record shows that the Orgatron is manufactured by the Everett Piano Company under license from Hoschke and that it embodies the invention involved in this controversy. Thus it will be seen that in Exhibit 14, Miessner unqualifiedly attributes to Hoschke the invention of an organ having reeds in which an "electrostatic pickup is used for translating the reed vibrations into alternating voltages which are amplified and reproduced." The invention thus attributed to Hoschke is the invention involved in this controversy.

This exhibit was called to Miessner's attention on cross-examination and he was asked to read the portion in which he attributed the invention to Hoschke. (Appellees' App. 2.) However, no attempt was made on redirect examination to explain away this admission. No doubt for the very good reason that the admission is so clear cut and unequivocal, that no amount of explanation could ameliorate its effect.

After having directly attributed the invention to Hoschke, Miessner then proceeds in Hoschke Exhibit 14 to admit inferentially that Miessner's invention or contribution was something other than the invention involved in this controversy.

On pages 1458 and 1459, Miessner describes reed organs which he made. The description shows that his sole contribution resided in the particular arrangement of the electrostatic pickup electrodes and of the circuits so as to provide for variation in timbre. Thus we find the following statement:

> "Of chief interest in these is a new method of timbre control which permits production of numerous timbres from one vibrator. Two or more electrostatic pickup electrodes are mounted near each vibratory reed tongue, particularly on its opposite sides in the direction of its vibration. Control of the polarities and magnitudes of the charging voltages on these electrodes produces distortions of the translated wave form of the reed motion, so that various electrical wave forms may be produced from a given, fixed, reed-vibration wave form, and thus a considerable range of output harmonic composition is obtained." (Appellees' App. 24.)

Thus we see that Miessner publicly attributed the invention involved in this controversy to Hoschke. The only contribution claimed for himself is a specific arrangement of electrodes and circuits not involved in this controversy.

This admission was made by Miessner, the writer, and expositer, during a calmer moment when he was not acting under the stress of partisanship. Should we accept the public admission of Miessner, that Hoschke was the inventor, made by Miessner when he was calmly surveying the field of electronic instruments, or should we accept the contentions now made by Miessner, the partisan, in the heat of controversy? The answer we submit is obvious.

Regardless of anything else in this case, this admission by Miessner casts a reasonable doubt on Miessner's present claim of priority of invention and under the doctrine of *Morgan* v. *Daniels,* the suit must be dismissed.

Point IV.

The alleged operation of Miessner Exhibit 3 was at most an abandoned experiment.

Miessner's actions in failing to apply for a patent promptly after the alleged operation of Exhibit 3, and statements contained in his public writings, clearly show that if Exhibit 3 was constructed and operated, the tests were not satisfactory and constituted, at most, an abandoned experiment.

On this question we find the following comment appearing in the opinion of the District Court:

> "In addition it may be added that from the testimony offered by the defendant, some of it being additional to that offered in the Patent Office, it appears that if Miessner had constructed this pitch pipe, as he claims, he abandoned that idea until the issuance of the Hoschke patent." (Appellants' App. 17.)

Miessner Exhibit 3 is a pitch pipe which was supposedly provided with an electrostatic pickup for one of the reeds, and then connected to the circuit of an electronic piano made by Miessner and identified in the record as the Baldwin piano. Admittedly only one of the reeds was provided with an electrostatic pickup. Admittedly the pitch pipe was only temporarily connected to the piano, and the pitch pipe was not provided with its own amplifier and loud speaker. For a brief period of only a few minutes the pitch pipe was temporarily connected in some manner to the circuit of the Baldwin piano and then supposedly operated so as to produce one note in the loud speaker.

At the trial the court commented that the demonstration of Exhibit 3 "sounded very much like the sound in a water pipe when there was trouble with the plumbing." (Appellees' App. 2.) Can this be considered a reduction to practice of a musical instrument? At most it is an experiment. It is a miniature model; not a full-size embodiment of the invention. Certainly it is not an electronic organ which produces music having the tonal qualities of a pipe organ.

The case of *Jardine* v. *Hartog,* 17 C. C. P. A. 764; 36 F. (2d) 606, presents a situation very much in point in the present case. The decision was rendered by the Court of Customs and Patent Appeals in an interference proceeding involving pistons for internal combustion engines. The junior party contended that the hand operation of a piston embodying the invention constituted reduction to practice. The Court rejected this contention, stating:

> "However, assuming that the altered 'Ricardo piston' conformed to the subject matter of the issue, we are not impressed with the contention that the involved invention and its intended functions are sufficiently simple to make a 'hand pressure' test an actual reduction to practice."

This same argument may be made with regard to the pitch pipe in the present case. Certainly the provision of a single electrostatic pick-up for but one of the reeds and its operation by means of blowing in a rubber tube attached to the pitch pipe does not constitute a test under operating conditions. This did not demonstrate that two or more reeds could be operated simultaneously without producing discord. It did not show that the electrostatic pick-up and the subsequent amplification and translation of the electrical impulses into sound would not prevent the tones from two or more reeds from properly blending together when simultaneously operated. It did not demonstrate that a pipeless organ in which the reeds were vibrated by mechanically produced suction could be made by means of the present invention.

The case of *James* v. *Stimson,* 1931 C. D. 456; 411 O. G. 3; 49 F. (2d) 493, is also very much in point. This decision was rendered by the Court of Customs and Patent Appeals in an appeal in an interference involving highway danger signals. One of the parties had made a device which he had tested in the cellar of his house by means of a flashlight.

The Court held that this did not constitute a reduction to practice. It stated:

> "It is sufficient for us to observe that the parties here were both trying to perfect highway danger signals and light-reflecting glass for similar purposes. It is quite apparent that a test of a highway danger signal to be used to catch and reflect the light from automobile headlights at night cannot be satisfactorily made excepting under actual working conditions. Such would be easy of accomplishment, and would be the natural and reasonable thing to do. To test such a device with a small contrivance made of tinplate or of small mirrors contained in a temporary wooden frame, by the light of a ceiling electric light, or by flashlight, in a room, at a distance of ten feet or thereabouts, is not such a test as is required to prove that the device will work satisfactorily under actual working conditions."

Certainly the pitch pipe as allegedly converted by Miessner in the early part of 1934, and the manner of operating it by connecting it to the Baldwin piano cannot be termed a test under actual working conditions. No music worthy of the name can be produced by a single reed capable of producing but one tone. As pointed out above, the test did not show that two or more reeds could be harmoniously operated at the same time nor did it show that organ-like music could be produced when the reeds were vibrated by mechanically-produced suction.

See also:

> *Van Auken* v. *Cummings*, 49 F. (2d) 490;
> *Bennett* v. *Fitzgerald*, 48 F. (2d) 917;
> *Krueger* v. *Gautier, et al.*, 83 F. (2d) 832.

Aside from all this it is quite clear that if the pitch pipe was operated, the operation was not satisfactory. This is partially corroborated by Miessner testimony at the trial. He testified that when he first tried the pitch pipe he selected a reed "of a blow type." He stated that the vapors from his breath "began to cause a short-circuit effect, which made noises and was *not very satisfactory.*" (Appellants' App. 16.)

However that may be, abandonment is conclusively proven by Hoschke Exhibit 15, introduced at the trial. (Appellees' App. 24-26.) This is a paper prepared by Miessner and bearing the notation on the first page inside of the cover "Received June 11, 1934." It must be remembered that June 11, 1934 is several months subsequent to the date of the alleged operation of the pitch pipe.

The title of the paper is "The Design Considerations for a Simple and Versatile Electronic Music Instrument", and it contains a description of what Miessner considers to be the best type of electronic musical instrument. On page 185 we find the following heading: "The Stretched Steel String, The Best Vibration Generator". Then follow several paragraphs devoted to a eulogy of stretched strings such as those employed in a piano, and arguments why strings should be employed as the vibration generators in an electronic instrument. (Appellees' App. 25.)

In contrast to this, on the preceding page he explains why reeds should not be employed. He states: "Of them, transversely vibrating reeds and rods are characterized by relatively simple vibrations, poor in harmonic composition, and by some inharmonic components." (Appellees' App. 25.)

It should be borne in mind that this paper was submitted to the Acoustical Society of America in June, 1934, several months after the alleged operation of the pitch pipe. If the test of the pitch pipe was actually made, it apparently served to convince Miessner that piano strings such as those in his Baldwin piano were the best vibration generators and that reeds should not be employed because they were "poor in harmonic composition" and had "some inharmonic components." This shows that whatever idea Miessner might have had with respect to the use of reeds was abandoned by June, 1934.

If Miessner Exhibit 4 was operated as contended by Miessner, its operation was apparently of such a character as to convince Miessner that reeds were not satisfactory vibrators for electronic instruments and he abandoned whatever idea he had.

It is, of course, an elementary principle of patent law that experiments which have been abandoned are without significance. The United States Supreme Court in the case of *T. H. Symington Co.* v. *National Malleable Castings Co.*, 250 U. S. 383, 63 L. Ed. 1045, stated:

> "A conception of the mind is not an invention until represented in some physical form, and unsuccessful experiments or projects, abandoned by the inventor, are equally destitute of that character."

Another case in point is *Westinghouse Electric & Mfg. Co.* v. *Wadsworth Electric Mfg. Co.*, 51 F. (2d) 447, (C. C. A. 6).

Point V.

Appellants' evidence in this suit is substantially the same as the evidence presented by Miessner in the Patent Office proceedings.

The court below found that "the testimony offered by Miessner at the trial was substantially the same as that offered by him in the proceedings in the Patent Office." (Appellants' App. 17.)

The only witnesses called by appellants at the trial of this case were Miessner and Jacobs, both of whom had testified in the Patent Office interference proceedings. Miessner is the individual plaintiff herein and Jacobs is his patent attorney, and a former employee of Miessner Inventions, Inc. The testimony of both of these witnesses at the trial is a repetition of their testimony in the interference proceedings.

Thus in the interference proceedings, Miessner testified as to the construction of the pitch pipe (Miessner Exhibit

3) at the time it was allegedly operated. He gave similar testimony in the interference proceedings.

At the trial he also fixed the date on which the pitch pipe was allegedly operated as October 23, 1933 and identified a notebook entry (Miessner Exhibit 12) allegedly made at that time. Similar testimony was given by Miessner in the interference proceedings and the notebook entry was an exhibit before the Patent Office.

Jacobs fixed the date of the alleged operation of the pitch pipe, both at the trial and in the interference proceedings, as December, 1933. Both at the trial and at the interference proceedings, Jacobs also expressed his opinion as to the internal construction of the pitch pipe at the time of its alleged operation, but admittedly he did not help in the conversion of the pitch pipe nor did he see the inside of the pitch pipe until after the interference was declared.

Some exhibits which were not before the Patent Office were introduced by Miessner at the trial, but admittedly these exhibits are of contemporaneous origin and do not serve to prove either conception or reduction to practice. Thus, Miessner Exhibit 28 is a pitch pipe which admittedly is not the one which was used at the time of the alleged test. Miessner Exhibit 29 is a diagram recently prepared and somewhat similar to Miessner Exhibit 8, which was before the Patent Office. Miessner Exhibit 30 is a sketch supposedly showing the pitch pipe about which Miessner and Jacobs testified. However, this sketch was of recent origin and admittedly does not accurately represent what Jacobs saw at the time of the alleged test. In this connection, the witness Jacobs testified: "It, of course, does not represent exactly what I saw."

Miessner Exhibits 31 to 34, inclusive, have no direct bearing on Plaintiffs' case and do not help to prove either conception or reduction to practice. Miessner's remaining exhibits were all before the Patent Office.

At the trial of the case, Miessner also opened the pitch pipe (Miessner Exhibit 3) so as to reveal the internal construction thereof and it is argued by the plaintiffs that this constitutes new evidence. Actually, it is evidence of nothing excepting the present construction of the pitch pipe. It in no way serves to prove the construction of the device which was allegedly operated in 1934 or 1933. Furthermore, this very question was considered by the Board of Appeals. In Miessner's petition for a rehearing, before the Board of Appeals which forms part of Miessner Exhibit 26, he offered to take the pitch pipe apart for the inspection of the Board of Appeals. The Board of Appeals rejected this offer stating:

> "We fail to see how such an inspection at this time would prove what was inside the exhibit when, according to the record, the test was made." (Appellant's App. 34.)

Accordingly there is no substantialy difference in the evidence presented by the appellants in this suit and the evidence submitted by Miessner in the interference proceedings. The situation is analogous to that in *General Talking Pictures Corp.* v. *American Triergon Corp.*, 96 F. (2d) 800, in which the court stated:

> "The evidence presented before the tribunals of the Patent Office and that received in the hearing in the District Court contain no substantial differences. All evidence both 'new' and 'old' has been carefully considered and much of it has been analyzed in this opinion. There is nothing in the evidence presented to the District Court of sufficient importance to overcome the findings of the tribunals of the Patent Office, and the rule enunciated by the Supreme Court in Morgan v. Daniels must be held to apply to the facts of the case at bar to prohibit the granting of the relief sought by the appellees in their bill of complaint."

See also *Globe-Union, Inc., et al.* v. *Chicago Telephone Supply Co. et al.*, 103 F. (2d) 722.

Contrast this repetitious testimony produced by the appellants as the trial with the succinct, but very important, new evidence produced by the appellees. The new evidence produced by the appellees is as follows:

1. Hoschke Exhibit 14—A booklet or paper prepared by Miessner in which he publicly attributed the invention involved in this controversy to Hoschke.

2. Hoschke Exhibit 15—Another booklet or paper prepared by Miessner on or prior to June, 1934, which shows that Miessner abandoned whatever concept or idea he might have had with respect to using a reed and an electrostatic pickup.

3. The testimony of Jacobs on cross-examination to the effect that condenser microphone circuits were old and that the use of such a circuit with an emplifier was well known in 1928. This testimony shows that the operation of Hoschke's Exhibit 4, in 1928, was a reduction to practice.

Point VI.

Hoschke conceived the invention and reduced it to practice in the year 1928.

Not only must Miessner lose this appeal because he has failed to establish his case by more than a preponderance of the evidence, under the doctrine of Morgan v. Daniels, but also because the appellees have proven that Hoschke completed the invention earlier than any date proven or claimed by Miessner.

Both of the Patent Office tribunals and the District Court found that Hoschke conceived the invention at least as early as April, 1928. The finding of the District Court on this question is as follows:

> "The evidence establishes that Frederick A. Hoschke conceived the invention set forth in the two counts, at least as early as April 12, 1928." (Appellants' App. 19.)

This finding is not challenged by the appellants in their present appeal. Accordingly, it is not necessary for us to discuss at length the evidence proving conception by Hoschke in 1928. However, we do wish to refer the court to Hoschke Exhibit 1 (Appellees' App. 21-23) which is a letter written by Mr. Hoschke to Victor I. Zuck on April 12, 1928. This letter contains a complete disclosure of the invention involved in this controversy.

With regard to reduction to practice by Hoschke, the District Court found as follows:

> "The evidence establishes that Frederick A. Hoschke built, and successfully operated at least as early as December, 1928, a small, single reed model, (Defendants' Exhibit 4) embodying the invention of counts 1 and 2." (Appellants' App. 19.)

This finding is based upon Hoschke Exhibit 4, which is a small model having a single free reed, an electrostatic pickup in inductive relationship with the reed, and wires connected to the reed and pickup. Both Mrs. Hoschke and Mr. Zuck saw this model and heard it operated. (Appellees' App. 11, 14.) Mr. Zuck saw and heard the model operated in December, 1928. (Appellees' App. 11), and in his testimony, he gave a detailed description of the construction and operation of the device, and the manner in which it was connected in a condenser microphone circuit. Mr. Zuck's testimony on this question is set forth in full in appellees' appendix (Appellees' App. 10-13).

It is unmistakably clear, from Mr. Zuck's testimony, that Exhibit 4 was connected in a condenser microphone circuit to an amplifier which, in turn, was connected to a loud speaker, and it was operated so as to cause a musical sound to emanate from the loud speaker. (Appellees' App. 11.) Mr. Zuck's testimony is corroborated by Mrs. Hoschke who said that she saw and heard the device operated, and that when it was operated, sound emanated from a loud speaker which Mr. Hoschke had in the living room. (Appellees' App. 14.)

It must be remembered that, at the time that the testimony was taken in connection with this controversy, Mr. Hoschke was dead, and accordingly it was impossible to obtain the benefit of his testimony. However, we do have the straightforward testimony of two witnesses, namely, Mr. Zuck and Mrs. Hoschke, that the small, single reed model (Hoschke Exhibit 4) was in existence and was operated at least as early as December, 1928. Mr. Zuck has given a complete description of the wiring circuit showing clearly that the reed and electrostatic pickup were connected in a microphone circuit.

Under the circumstances, the finding of the District Court on this question is clearly supported by the evidence and should not be disturbed.

Point VII.

Appellants' testimony and evidence proves that Hoschke built and successfully operated a full size organ embodying the invention in December, 1933.

The District Court found that "Frederick A. Hoschke built a full size organ embodying the invention set forth in counts 1 and 2, and successfully tested the organ in December, 1933." (Appellants' App. 19.)

The appellants challenge this finding, although this challenge would not appear to come in very good grace for the reason that appellants' record alone establishes that the full size organ was built and successfully operated in December, 1933.

One of the witnesses, called on behalf of the appellants, was Victor R. Mumma. Mumma was aggressively hostile towards Hoschke, and was disgruntled because he had expected to receive a job from Hoschke. Also, he received a fee of $25 from Miessner for his expenses and time in connection with his testimony. (Appellees' App. 3.) After he testified, he received employment for a period of a year and a half, or two years, from Miessner Inventions, Inc., one of the appellants herein, at a salary of $30 or $35 a week. (Appellees' App. 3.) Certainly, these factors were bound to have some influence, sub-conscious or otherwise, upon his testimony.

In spite of this fact, his testimony shows without doubt, that Hoschke built, and successfully operated, in December, 1933, a full size organ embodying his invention. Thus we may first refer to Miessner Exhibit 18, a letter written by Mumma, which reads, in part, as follows:

> "When I went to help Hoschke the first time which was prior to December 27 on or before the first part of December, 1933 the mechanism or the general tone screw principle had been complete. The orgatron had been built as far as reeds, wind and tone screws were concerned. Now working as Mr. Hoschke did in his spare times at evenings the construction of the mechanism which was completed before I entered on the scene would have taken several months at least. And since the construction came after the date of conception, the date of conception would be far from December, 1933." (Appellees' App. 18.)

With regard to this paragraph, Mumma, who as stated above was called as a witness in behalf of Miessner, testified:

> "X-Q. 13. Did you write that paragraph? A. I did.
>
> XQ. 14. Is it true to the best of your knowledge? A. It is.
>
> XQ. 15. To the best of your recollection today are the statements appearing in that paragraph correct? A. Yes, they are.
>
> X-Q. 16. Now, at the time you first saw the organ as referred to in the paragraph which you just read was the three stage amplifier connected to it? A. It was." (Appellees' App. 8.)

The witness then went on to describe the manner in which the amplifier was connected to the organ. Thereafter his testimony proceeds as follows:

> "XQ. 20. Was the organ provided with a manual or keyboard at that time? A. It was.
>
> XQ. 21. Was the wind mechanism connected so that depression of one of the keys on the keyboard would cause the vibration of a reed? A. Yes.
>
> XQ. 22. Did Mr. Hoschke operate the organ at that time in your presence? A. After the amplifier was fixed or repaired Mr. Hoschke operated the organ.

> XQ. 23. When was that? A. Sometimes within a day or two before December 27th, 1933". (Appellees' App. 8.)

On re-direct examination Miessner's witness Mumma stated that the sounds caused by the operation of the organ were very similar to organ tones. His testimony is as follows:

> "RDQ. 11. Relative to your answer to XQ. 42 in which you stated that the pitches which came out of the loud speaker were the same as the pitch of each individual note, did those pitches or notes sound like organ tones? A. Those pitches and notes were very similar to organ tones." (Appellees' App. 9.)

From the foregoing it is clear that the organ built by Hoschke embodied the subject matter of both of the counts in issue and that it was completed and demonstrated in December, 1933. It must be remembered in this connection that these facts have been proven by Miessner.

While it is believed that Mumma's testimony conclusively shows the successful operation of Hoschke's organ, in December, 1933, it will be appreciated that further and more complete proof is to be found in the evidence introduced by the appellees. The reed chest of the organ has been introduced in evidence as a physical exhibit (Hoschke Exhibit 7), and photographs of the complete organ are also in evidence (Hoschke Exhibits 8 and 9). Also, there is detailed testimony, both by Mrs. Hoschke and Mr. Zuck, as to the organ. However, it is believed to be unnecessary to burden the court with this voluminous evidence since it would appear to be beyond question that appellants, themselves, have proven that a full size organ was completed and successfully operated by Hoschke in December, 1933. Under the circumstances, the finding of the District Court, on this question, is amply supported by the evidence.

CONCLUSION.

It is submitted that appellants have failed to prove priority of invention by Miessner, that appellees have established a date of invention prior to any date claimed by Miessner, and that, accordingly, the judgment of the District Court should be affirmed, with costs, to the appellees.

Respectfully submitted,

Munn, Liddy, Glaccum & Kane,
Attorneys for Appellees.
Harry E. Seidel,
Solicitor for Appellees.

Orson D. Munn,
Daniel H. Kane,
Of Counsel.

APPENDIX

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IN THE

United States Court of Appeals

FOR THE DISTRICT OF COLUMBIA

No. 7962.

BENJAMIN F. MIESSNER, ET AL., *Appellants*,

v.

WILHELMINA HOSCHKE, ET AL., *Appellees*.

Appeal from the District Court of the United States for the District of Columbia.

APPENDIX TO BRIEF FOR APPELLEE.

EXCERPTS FROM TESTIMONY AND PROCEEDINGS DESIGNATED BY APPELLEE.

Charles T. Jacobs.

54 Recross Examination

By Mr. Kane:

RXQ. 83. Mr. Jacobs, some reference was made to an electronic piano which Mr. Miessner had constructed. Can you tell me whether an electromagnetic pick-up was ever used in connection with the strings of that piano, to your knowledge? A. I am not able to say that an electromagnetic pick-up was installed in that piano, but in equivalent pianos, yes.

RXQ. 84. Electromagnetic pick-ups had been employed? A. We had employed them; yes.

* * * * * * * * * *

65 The Court: It sounded very much like the sound in a water pipe when there was trouble with the plumbing.

* * * * * * * * * *

Benjamin F. Miessner.

Cross-examination.

71 XQ. 71. I refer you to a booklet entitled "Electronic Music and Instruments" by Benjamin F. Miessner, and ask whether you can identify that. A. I can.

XQ. 72. Did you prepare that? A. I did.

XQ. 73. Was that published in any periodical or publication? A. It was published in the Proceedings of The Institute of Radio Engineers. This is a reprint.

XQ. 74. It bears the date November, 1936. Is that approximately the date on which it was published? A. I presume so.

XQ. 75. It was prepared by you prior to that date? A. Yes.

XQ. 76. Now I refer you to page 1457 and ask you to read the first two sentences of the second paragraph. A.
"The most recent developments in this country are
72 the electronic organs using wind-blown harmonium
reeds. One such, the work of Hoschke, 44 has been placed on the commercial market by the Everett Piano Company."

XQ. 77. Now, is there an asterisk or is there a number next to the name of Hoschke? A. That is number 44.

XQ. 78. What does that refer to at the bottom of the page? A. Patent 2,015,014, to F. A. Hoschke.

XQ. 79. And that is the patent involved in this interference with your application? A. Yes.

* * * * * * * * * *

73 XQ. 81. Now, I notice in the first page of Exhibit 15 for identification it states "Received June 11, 1934." Was that the approximate date on which you prepared it? A. I prepared it some time before that; I do not remember how long.

XQ. 82. I refer you particularly to page 185 and ask you to read the paragraph heading appearing near the top of the page, in the first column. Would you read it out loud, please? A. "The Stretched Steel String the Best Vibration Generator."

XQ. 83. Now, was it your opinion at that time that the stretched steel string was the best vibrator to employ in connection with an electronic instrument of the type employed in this booklet? A. Yes, for an electronic piano.

XQ. 84. Mr. Miessner, one of the witnesses that testified for you in the Patent Office proceeding was Victor R. Mumma. Is that correct? A. That is.

XQ. 85. After he testified for you did you employ him or did Miessner Industries employ him? A. Miessner Inventions employed him.

XQ. 86. For how long a period? A. I can not say that, without referring to my records. It was on the order of a year and a half or two years or something like that.

74 XQ. 87. Do you recall the salary that you paid him? A. Yes. I paid him at first $30 a week and then $35 a week.

XQ. 88. Now, prior to the time that you employed him or that Miessner Inventions employed him, you paid him certain fees in connection with his trips to New York to testify. Isn't that correct? A. I think there was only one fee, which covered his expenses traveling back and forth and his time. Twenty-five dollars I believe it was.

* * * * * * * * * *

EXCERPTS FROM PATENT OFFICE RECORD OF BENJAMIN F. MIESSNER.

(PLAINTIFF'S EXHIBIT NO. 26)

475 **Miss Helen LaRocca**

* * * * * * * * * *

Direct Examination.

* * * * * * * * * *

Q. 18. Did you ever see Mr. Miessner do anything with the device marked "3" and if so, what? A. He was working at it on his desk before he brought it over to the piano and I watched him work on it.

Q. 19. Do you recall if he had it connected to the piano somewhat or substantially as it is now connected? A. I never saw it connected to the piano. I knew he connected it to the piano but I didn't know exactly where.

Q. 20. Do you recall what you were doing at the time that Mr. Miessner was using the device marked "3"? A. Typing.

* * * * * * * * * *

476 Q. 30. Do you recall approximately when that event happened? A. Around February 1934.

* * * * * * * * * *

478 Q. 39. Have you any recollection of when you prepared the material for that pamphlet for Mr. Miessner? A. I wouldn't be able to say definitely.

Q. 40. Please read the date on the pamphlet? A. January 1934.

Q. 41. Have you any recollection as to whether your work on this pamphlet was performed before or after you heard Mr. Miessner operate the pitch pipe you testified to above? A. Before.

* * * * * * * * * *

479 Cross-examination

By Mr. Kane:

XQ. 1. When you were employed by Mr. Miessner you were not employed to do research work or any other type of work relating to his inventions, were you? A. No.

XQ. 2. Do you understand the principles of electronics and physics upon which his piano identified, as the Baldwin piano in the photograph marked "1", or the pitch pipe identified by the number "3" operate? A. No.

XQ. 3. At the time that you state that you heard Mr. Miessner operate the pitch pipe did you examine it and see how it was made? A. I did not.

XQ. 4. You do not know then how the pitch pipe was constructed or how it operated? A. No, I didn't know how it was constructed or operated but I did see Mr. Miessner working on it at his desk.

XQ. 5. Do you know whether it had a vibrating reed in it or an electrostatic pickup? A. I wouldn't know.

480 XQ. 6. You haven't had the pitch pipe identified by the number "3" in your custody since that time, have you? A. I have not.

* * * * * * * * * *

481 Re-direct examination

By Mr. Anderson:

* * * * * * * * * *

RD. Q. 3. In your answer to question 12 you stated that you recalled your last patent work for Mr. Jacobs occurred in the early part of 1934. Have you any recollection of how long before that you heard Mr. Miessner operate the pitch pipe?

By Mr. Kane: I object to that question, because it's leading and because it's contrary to the previous testimony.

A. That was just the last bit of work I did for Mr. Miessner, was done in reference to patent work.

* * * * * * * * * *

482 RD. Q. 13. Do you recall that the same screw was projecting from the top of the pitch pipe as it is now? A. No, I didn't. I didn't see it closely enough.

* * * * * * * * * *

473 **Charles T. Jacobs**

Direct Examination

* * * * * * * * * *

Q. 54. Without referring to any record, can you fix the time more definitely? A. I can fix the date at least as early as the first part of December, 1933 because I distinctly recall that at that time the piano was taken away from these premises for demonstration at Columbia University, New York City and that it never returned to these premises during the remainder of my regular employment with Mr. Miessner.

* * * * * * * * * *

Cross-Examination

490 XQ. 5. Has the pitch pipe identified by the numeral "3" been in your custody since you first heard it? A. It has not.

XQ. 6. Did you help to construct the pitch pipe?
491 A. I did not.

XQ. 7. When did you first take it apart to examine it? A. The first time that I saw the inside of that other than through the apertures which are inherently provided in the case was last fall, that is to say a year ago when this interference was first instituted, or at about that time.

* * * * * * * * * *

Charles T. Jacobs Recalled Direct Examination.

551 Q. 96. What if any was the relation in time of your employment by Mr. Miessner and that of Miss LaRocca? A. I stopped regular employment for Mr. Miessner in the early part of March 1934. During the next few months

I occasionally came in for a few hours at a time in connection with one or another matter and I believe that Miss LaRocca was present on very few of those occasions shortly after the termination of my regular employment.

Q. 97. Then Miss LaRocca's employment terminated shortly after your employment terminated at the
552 Miessner laboratory. Is that correct? A. Yes.

* * * * * * * * * *

Cross-Examination

558 XQ. 30. Do you recall the exact dates on which you first saw the entries on pages 22, 28 and 38 of book 18? A. No. I do not recall the exact dates on which I first saw those entries.

XQ. 31. When you testified as to the dates on which they were made were you relying upon the dates affixed to the pages? A. Necessarily so. I have seen so many entries in Mr. Miessner's books that it would be utterly impossible for me to recall each one except for the page dates.

* * * * * * * *

Victor R. Mumma.

Cross-Examination

595 xQ. 12. I refer you to the page bearing the numeral 2 at the top thereof and ask you to read slowly into the record the paragraph beginning with the word "When". A. "When I sent to help Mr. Hoschke the first time which was prior to December 27 on or before the first part of December 1933 the mechanism or the general tone screw principle had been complete. The orgatron had been built as far as reed, wind & tone screws were concerned. Now, working as Mr. Hoschke did in his spare time at evenings, the construction of the mechanism which was completed before I entered the scene would have taken several months at least and since the construction came after the date of conception the date of conception would be far from December 1933."

xQ. 13. Did you write that paragraph? A. I did.

xQ. 14. Is it true to the best of your knowledge? A. It is.

xQ. 15. To the best of your recollection today are the statements appearing in that paragraph correct? A. Yes, they are.

xQ. 16. Now at the time you first saw the organ as referred to in the paragraph which you just read was the three stage amplifier connected to it? A. It was.

xQ. 17. Would you please describe the manner in which it
was connected? A. The amplifier was connected at
596 the first time when I was at Hoschke's home by a
wire which went down to the inside of the organ.

xQ. 18. In the paragraph which you read above you said the orgatron had been built as far as reeds, wind, and tone screws were concerned. I wish that you would specify the manner in which the amplifier was connected to these portions. A. You're still speaking of the first time I went out?

xQ. 19. Yes. A. As I stated before, it was connected to a wire which went down to the inside of the organ.

xQ. 20. Was the organ provided with a manual or keyboard at that time? A. It was.

xQ. 21. Was the wind mechanism connected so that depression of one of the keys on the keyboard would cause the vibration of a reed? A. Yes.

xQ. 22. Did Mr. Hoschke operate the organ at that time in your presence? A. After the amplifier was fixed or repaired Mr. Hoschke operated the organ.

xQ. 23. When was that? A. Some time within a day or two before December 27th, 1933.

xQ. 24. Was that the first time that Mr. Hoschke operated the organ in your presence? A. That was.

xQ. 25. Well, had you operated it prior to that time or had anyone else in your presence operated it prior to that time? A. No, in both cases.

xQ. 26. At the time a few days prior to December 27, 1933,
when you state the organ was first operated in your
597 presence was it operated electrically? A. Yes.

xQ. 27. Did a sound emanate from the speaker? A. It did.

* * * * * * * *

Re-direct Examination:

604 Re-D. Q. 11. Relative to your answer to xQ. 42, in which you stated that the pitches which came out of the loud speaker, were the same as the pitch of each individual note, did those pitches or notes sound like organ tones? A. Those pitches and notes were very similar to organ tones.

* * * * * * * *

EXCERPTS FROM PATENT OFFICE RECORD OF FREDERICK A. HOSCHKE.

(PLAINTIFF'S EXHIBIT NO. 26)

Victor I. Zuck.

Direct Examination

633 Q. 59. Did Mr. Hoschke bring with him to Cornwall, N. Y., a model of a reed and adjustable tone screw exemplifying his invention?

By Mr. Anderson: I object to the question as leading.

A. Yes.

Q. 60. Did he show the model to you and if so, can you briefly describe it? A. Yes, Mr. Hoschke did show the model that he brought with him having had it carefully wrapped in his brief case. This model consisted of a free reed having its tongue riveted at one end, the other end being free for unrestricted vibration. The reed had a piece of organ wire attached to it which when in circuit would have been connected to the power supply of the amplifier. Above the reed was fastened a piece of hard rubber or fibre having in it a single tone screw nicely machined on the end nearest the tongue of the reed. This also had a piece of cotton covered organ wire fastened to it and when in circuit would have been connected to the pre-amplifier. The 634 reed of this model formed one plate of a condenser and the tone screw above it constituted the other plate of a condenser. Mr. Hoschke said at the time he showed me this model that it did work as he had it connected to a small amplifier. I distinctly recall asking him what kind of a musical tone he got from this model. His answer was one that he gave me on numerous occasions afterwards and that is, "I cannot, with a single note, associate it with any particular pipe organ tonality since I did not have the right set-up, having cotton covered wire running from the grid from the first amplifier to the tone screw, causing considerable hum, though I know how to eliminate this. The nearest tone that I can associate it with is that of an organ Clarabella stop, though not a perfect imitation."

By Mr. Anderson: Objected as hearsay.

Q. 61. Did Mr. Hosche operate the model which he had with him while in Cornwall? A. No. He did not.

Q. 62. Did you ever see that model operated to produce a musical tone in a loud speaker subsequent to that date. A. Yes, I did.

Q. 63. Kindly advise as to where, and approximately when, you saw the model operated. A. I saw this model operated in Mr. Hoschke's laboratory in Hagerstown, Maryland, on or about (witness refers to diary) December 27, 1928.

Q. 64. Can you describe the manner in which the model was connected in circuit and also the manner in which it was caused to operate? A. Yes, the reed was activated by drawing atmosphere through a rubber tube. Mr. Hoschke had a wire leading from the free reed to the B plus of the power supply. This forming the one plate of a condenser.
635 The tone screw forming the other tone plate of the condenser was connected to the first tube of the amplifier that he had constructed.

Q. 65. When atmosphere was drawn through the rubber tube, what was the result? A. With the leads connected and atmosphere being drawn through the rubber tube, a musical tone was created.

Q. 66. Where did the musical tone emanate from, from the model or from the loud speaker?

By Mr. Anderson: Object to the question as leading.

A. From the loud speaker.

Q. 67. Would you mind describing how the loud speaker was connected to the model? A. The loud speaker was connected to the amplifier in the same manner that one would be connected to a public address system.

Q. 68. Was the model which Mr. Hoschke operated for you on or about December 27, 1928, the same model which he showed to you at Cornwall, New York, in April of that year. A. The same model with the exception of a different pitched reed, though when I saw it in Hagerstown, it had the free reed, that is, the tongue riveted to one end, and free at the other for unrestricted vibration.

Q. 69. Is that model in this room at the present time? A. That model is in this room at the present time.

Q. 70. Is it in the same condition as when it was operated in your presence by Mr. Hoschke in December, 1928? A. Yes.

Q. 71. Have you connected it in circuit so that it can be operated at this time? A. I have provided leads from
636 the amplifier of the final pipeless organ model that
Mr. Hoschke invented to test this model.

Q. 72. Will you kindly operate the model now and describe on the record as to whether it appears to operate in substantially the same manner at this time as in December, 1928? A. I connected the wire leading from the reed to the B plus voltage of the amplifier. This, when connected, formed one plate of a microphone condenser. The wire leading from the movable tone screw forming the other plate of the condenser and located above the reed, was connected to the grid of the pre-amplifier. The switch controlling this amplifier was turned on, making the amplifier operative. I drew atmosphere through the reed and created a musical tone. I operated the volume control of this amplifier and increased and decreased the volume of tone. I also operated a fan in front of the amplifier speaker giving a vibrato effect. This, more clearly, distinguished the tone from the reed which was quite audible when having it so near my ears.

Q. 73. Was there a loudspeaker connected to the amplifier in question? A. There was a loud speaker connected to the amplifier.

Q. 74. And did a sound emanate from the loud speaker? A. It did. Very distinctly when I operated the volume control.

Q. 75. How did this sound compare with the sound resulting from the operation of the model in December, 1928? A. As near as I can recall, about the same.

By Mr. Kane: I offer the model regarding which the witness has just testified in evidence, and ask that it be marked Exhibit 4.

* * * * * * * *

Cross-Examination

684 X-Q. 87. Do you recall relative to alleged operations at Hagerstown of model Exhibit 4, what kind of lead wires were used between the model and the amplifier? A. Yes. As near as I can remember the wires at that time were number 22 tinned copper with cotton cover insulation. In other words, a standard wire that was used in connecting the keyboard of a pipe organ to the organ electro-magnets.

X-Q. 88. What voltage was used to operate the magnets just mentioned? In connection with your last answer. A. 10 volts D. C.

X-Q. 89. How long were the wires from the model to the amplifier approximately? Relative to your answer to X-Q. 87. A. The wire leading from the tone screw above the reed to the grid of the first tube was as short as possible because of excessive hum that would be audible if it were of any great length. As near as I remember the length of this wire leading from the tone screw to the pre-amplifier was about 6 inches in length. The other wire connected to the reed and leading to the B plus terminal was approximately 18 inches long, since this unit, meaning the power supply, was located a short distance from the pre-amplifier. I know that at the time of this demonstration that there was a terrific feed back because of the Exhibit 4 being located so near the in-put channel. Mr. Hoschke picked up a piece of lead foil and covered the amplifier and ran another piece
685 of No. 22 cotton covered wire to the ground terminal in this model. I believe this answers your question.

X-Q. 90. Did you see Mr. Hoschke perform the acts just stated on December 27, 1928? A. Yes, I did.

* * * * * * * *

Mrs. Wilhelmina Hoschke.

Direct Examination

704 Q. 17. About when was the first time you saw a model of the organ? A. The middle of June, 1927, the first part of his model worked and I saw it.

Q. 18. How do you affix the date as the middle of June, 1927? A. After we arrived at the home at Mealy Circle, Hagerstown, Md., Mr. Hoschke immediately set up 705 his work shop and started right to work on this model. I remember distinctly his finishing it in the middle of June.

Q. 19. Was that a small model or a large model? A. Small.

Q. 20. When Mr. Hoschke operated the model, where did the sound emanate from? A. From a speaker that he had in back of the grand piano in the living room.

Q. 21. I show you Hoschke Exhibit 4 and ask you whether you can identify it. A. I can identify it, but I can't explain about it, since I don't know anything about mechanics.

Q. 22. What is Hoschke Exhibit 4, to the best of your knowledge? A. First part of his model.

Q. 23. Is that what you saw in June, 1927? A. Yes.

* * * * * * * * * *

IN THE UNITED STATES PATENT OFFICE

MIESSNER v. HOSCHKE INTF. NO. 71,788.

Miessner Exhibit No. 16.

Dorothy L. Davis,

(Seal) Notary Public.

Helen

FILED
JUN 12 1941
CHARLES E. STEWART, Clerk

Prec. Oct 16		4	
Oct. 16	Mon.	2	
" 17	Tues.	1½	7½
" 18	Wed	1½	9
" 19	Thurs.	X	
" 20	Fri.	X	
" 23	Mon.	2½	11½
" 24	Tues.	6½	18
" 25	Wed	5	23
" 26	Thurs.	X	
" 27	Fri.	X	
" 30	Mon	X	
" 31	Tues. (10^{25})	6½	29½
Nov. 1	Wed.	6	35½ (17^{25})

11/14/36 This must have been 1933 because of Monday occurring on the 23rd

1933

DOCKET DIVISION
FEB 27 1937
U.S. PATENT OFFICE

Oct 18	Pads	1.20	
	Clips	.10	
	July 18th Tel on Mil Bick re Vaulting	.77	
24	Eraser	.05	
25	Reg[illegible]	.81	2.93
26	Parcel Post ~~C.O.D.~~	9.20	12.13
	Rest	.55	12.68
" 31	Postage	36	13.04

165

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IN THE UNITED STATES PATENT OFFICE

MIESSNER v. HOSCHKE INTF. NO. 71,788.

Miessner Exhibit No. 17.

Dorothy L. Davis,

(Seal) Notary Public.

FILED

JUN 12 1941

CHARLES E. STEWART, Clerk

1934

Helen	Mon	Feb 26	2		
	Tues	" 27	1½		
	Wed	28	X		
	Thurs	" 29	1½		
	Since thurs – Mar. 19		2	7	
	Thurs	22	1½	8½	Bill Good Boy J.

UCKET DIVISIO
FEB 27 1937
U.S. PATENT OFFICE

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IN THE UNITED STATES PATENT OFFICE
Before the Examiner of Interferences
MIESSNER v. HOSCHKE INTF. NO. 71,788.
Miessner Exhibit No. 18. (4 pages) Sketch
Dorothy L. Davis,
(Seal) Notary Public.

Sharpsburg Md.
Feb. 26 1937

MAR 1937

Dear. Victor.

I must apologize for not writing sooner. I have been very busy, but things are slowing down somewhat now.

You will realize that it is no easy problem to go back to 1933 and remember things accurately and be sure. I went through the files of Zimmermans from the time they started in business till 1934 and checked every sales ticket (quite a job). The earliest date is Dec 27 1933, a sales ticket for "B" Batteries. The ticket is in M. P. Mallers name, but I know Hoschke bought them because I remember the sale, and furthermore it was the only Batt. Sale in a radius of three weeks that was made. During the month of Dec. Maller ran an Independent account with Zimmerman and these Batteries were cash Sale.

JUN 12 1941
CHARLES L. STEWART, Clerk

Prior to the sale of the Batteries I had been out to help Hoschke because in the 1st place I asked him to get them and in the second place the Batteries had been used ~~and~~ to test

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Miessner Exhibit No. 18.

Sheet 2.

a radio on the work bench. I assured Hoschke that they had only been used for a short time and were O.K. Those are the same Batteries he gave me if you remember when we cleaned up!

When I went to help Hoschke the first time which was prior to Dec 27 or or before the first part of December 1933 the mechanism or the general tone screen principal had been complete. The orgatron had been built as far as reeds wind & tone screens were concerned. Now working as Mr. Hoschke did in his spare times at evenings the construction of the mechanism which was completed before I entered on the scene would have taken several months at least. And since the construction came after the date of conception, the date of conception would be far from Dec '33.

It is tragic to think that some one would strike at the heart of your instrument. Never the less you can rest assured that it is possible through several other methods to obtain the same capacitive results which is the real heart of the harmonic content of the orgatron.

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Miessner Exhibit No. 18.

Sheet 3.

-3-

Several years ago I worked out several different methods of obtaining the same results. If I have the opportunity of seeing you in the future call my attention to them and we will discuss their possibilities.

I am sending you a copy of the bill of sale dated Dec 27 '33! Also I will give you a copy of Hoschkey's first account with 3 inventions

If it is necessary for me to appear should I have originals or will copys be ok.

Always.

Vic.

P.S. If it is necessary at any time to telegraph me, Telegraph both to my address ~~Cap~~ Sharpsburg Md. Elect. Contractor. and to my employer. W. G. Cumbleton, Waynesboro Pa for I may be either place. at any time -

V.M.

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Miessner Exhibit No. 18.

Sheet 4.

Copies from Zimmermans Ledger.

Frederick A. Hoschke.

Jan 20 1934

.36

1- Rotary Switch

1.62

1- 2A3 Tube 360 — 30

25

2- Rolls wire — 15

10- ft. lead in — 18

1- Resistor — 21

1- ″

Jan 22 — 15

12 ft. Buss bar wire — 15

10 ft. tubing

Jan 25 — 1.62

1-2A3 Tube

etc.

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359 **Defts' Exhibit #1.**

Hagerstown, Maryland, U.S.A.
April 12th, 1928

Dear Victor:

I shall be at Cornwall in a few days and would thank you to reserve me a room with twin beds and bath at the Palantine in Newburgh for my self and Mrs. Hoschke for occupancy on the 16th.

It is too bad that I cannot get there in time for Baumgartner's recital on the 15th, but it is perhaps best that I arrive a day later in order that you and I have an uninterrupted opportunity of checking up the Artiste installation in the Cornwall organ.

By the way, you remember how the hairs on the heads of our organist friends stood erect when, for the first time, they heard music coming from a Moller organ that was not recorded by hand playing?

Well, Victor, they are going to be still more astounded by my latest dreams. Just as I eliminated the organist in making pipe organ music, I now intend to eliminate the pipes themselves by making tones like them by electric means (now laugh). 359a

On the back of the enclosed Cornwall combination sheet (that I am sending you for your settings on the blind combination board up there) you will see a hurriedly made sketch showing the way that, I am sure, will do the trick.

You know what a microphone condenser is. Now suppose you cut its diaphragm into 61 slits or ribbons and each section vibrated with a differently pitched tone, I believe that at the speaker end we should get the result, or combination, of all these ribbons at one time. This means that color and pitches should mix, regardless of how many were vibrating at the same time, I mean that we could play in chords.

Now here is the great idea. We know that a common melodian reed is full of harmonics. In fact, there are so many (particularly high up) that the reed tone is "lousy".

If, however, we can "pick-up" only some of these harmonics and the fundamental and leave the unwanted ones out, mix them and shoot them through an amplifier and loud speaker, we should get real organ tones that would be different from each other according to size, or shape of reed, of the cell-boards, wind pressure, voltage, etc.

For instance, if we put voltage on the reed (one side of a
condenser) and a plate right over the reed (and
360 shaped like the reed at its maximum point of swing)
we would reproduce that reed as is and get a sort of
"enlarged" reed tone, that's no good. But—and here is the secret—if we put an inverted adjustable screw (with the head flattened) over only a part of the reed, we would electrostatically pick up only that part of the reed that lies immediately under the screw head. All of the reeds must then be hooked up together and go to a "B" battery or eliminator and all of the screws wired together should go to the grid of the first amplifier tube, either through a transformer or direct (at the top of the grid-leak or grid-return resistance). I have the idea that the resistance of that grid leak would have a great deal to do with the amplification of the signal, both in color and loudness. I have enough stuff in my shop at home to make up an amplifier.

I want you to think over the idea of your helping me make the wind part of a model to try out this thing. I don't suppose anythng would be gained by talking to Moller about
it. You know how he is. He wouldn't believe it
360a if he saw it work, because it would have no pipes.

I suppose that all we can do is to keep thinking over the thing—we both have our regular work to do, but lets hope that some time before I get too old we can try it out. No harm in that.

Anyhow, I think its a great idea. Nobody would have believed that I would play a pipe organ without hand recording and this newest idea is no less possible. Will see you in a few days and we'll talk it over. I suppose I could have saved myself the task of writing this long letter and you the effort of trying to read it, but I am so enthusiastic over the possibility of the thing that I had to spill it. Will see you soon. Be a good boy. Please do not forget the hotel reservation.

Faithfully

Frederick A. Hoschke

Please excuse pencil, but for some reason my sick right hand can do better with it than with a pen. Probably it is because the necessary pressure on the pencil steadies my hand more. Anyhow, I have written you with pencil before.

JAH

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402 Endorsed: Filed Jun 12 1941 Charles E. Stewart, Clerk

Defts Ex 14

Electronic Music and Instruments

by

Benjamin F. Miessner

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Vol. 24, No. 11, November, 1936

433 The most recent developments in this country are the electronic organs using wind-blown harmonium reeds. One such, the work of Hoschke,[44] has been placed on the commercial market by the Everett Piano Company. It follows the usual reed and pipe organ design with one bank of reeds for each timbre, and with pneumatic coupling devices for blowing more than one reed with a given key;

[44] F. A. Hoschke, Patent 2,015,014.

that is, for introducing octaves, mixtures, and so forth. Electrostatic pickup is used for translating the reed vibrations into alternating voltages which are amplified and reproduced. A larger model, having two manuals and pedal board, has just been announced. This is shown in Fig. 14.

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434 The writer has developed several instruments with electrostatic translation of wind-blown reeds. Two of these are pictured in Figs. 15 and 16. Of chief interest in these is a new method of timbre control which permits production of numerous timbres from one vibrator.
435 Two or more electrostatic pickup electrodes are mounted near each vibratory reed tongue, particularly on its opposite sides in the direction of its vibration. Control of the polarities and magnitudes of the charging voltages on these electrodes produces distortions of the translated wave form of the reed motion, so that various electrical wave forms may be produced from a given, fixed, reed-vibration wave form, and thus a considerable range of output harmonic composition is obtained.

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440 Endorsed: Filed Jun 12 1941 Charles E. Stewart, Clerk

Defts' Ex. 15

The Design Considerations for a Simple and Versatile Electronic Music Instrument

Benjamin F. Miessner

Reprinted from The Journal of the Acoustical Society of America, Vol. VI, No. 3, January, 1935

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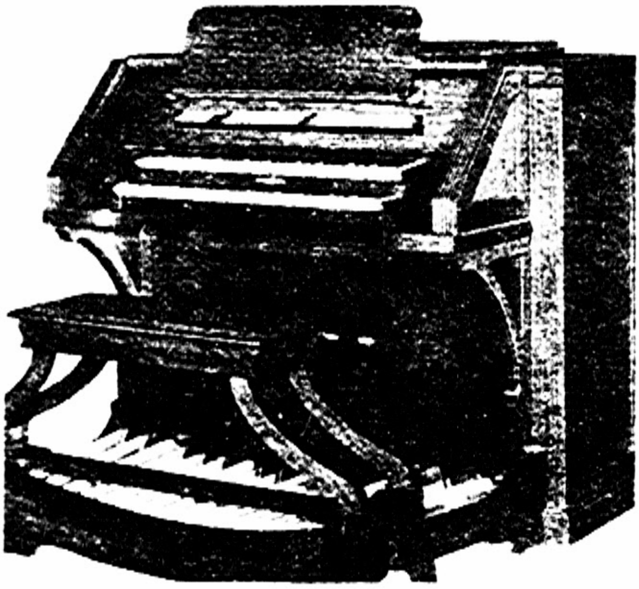

Fig. 14—Everett Orgatron Model MD-1, using wind-blown Harmonium reeds with electrostatic pickup.

444 In general, the mechanical vibrators with appropriate pick-up means form this last-mentioned class of generators. All of these have long been used in direct, mechanico-acoustic types of musical instrument. Of them, transversely vibrating reeds and rods are characterized by relatively simple vibrations, poor in harmonic composition, and by some inharmonic components. Bells are characterized by a profusion of inharmonic partials; plates and membranes to even further degree, are less usable musically.

Rods in longitudinal vibration might be used were it not
for the fact that they need to be very long for all save
445 the highest frequencies. In vibrating air columns we
find sources rich in localized harmonic energy, but
we are confronted not only with length and bulk, but also
with problems of converting the vibration into electrical
form, and in suppressing the undesired sounds of the pipes
themselves.

The Stretched Steel String the Best Vibration Generator

There remains in this group the stretched string, which, through centuries of evolution, is still the basis of most generators for musical tones. It is extremely rich in partials, all exactly integral with the fundamental, providing its tension be high relative to its stiffness, and providing it is homogeneous through its entire length, qualities easily attainable in practice through very wide frequency ranges. It is extremely simple, and inexpensive, and low in size and weight; it is easily tuned, and, particularly the steel string, relatively stable in pitch. It has a very long life free of harmful variations.

It is very easy to excite touch-responsively, and easy to stop; mechanisms suitable for its vibration control have been in use and developed through two centuries.

Its partials are so localized that their control for effecting a wide range of timbre through a very wide range of pitch is quite simple. The harmonic content of its own vibration may also be varied by the manner of its excitation, as by change of amplitude, or position or nature of the exciting device.

Its damping, when properly supported, and when relieved of the radiation and hysterisis losses of coupled sound boards, is so low that, for almost all musical purposes, it is practically negligible, but nevertheless controllable when desired. Since, in our electrical design, it is not called upon to supply vibratory energy for radiation from a sound board, it need no longer have the ability to absorb large amounts of kinetic energy, so that it can be very much shorter, and thinner, and under lower tension than, for example, in pianos.